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U.S. and Soviet Perspectives of the Conventional Force Balance

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Comptroller General
of the United States

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The Honorable Sam Nunn
Chairman, Committee on Armed Services
United States Senate

The Honorable Les Aspin
Chairman, Committee on Armed Services
House of Representatives

When we sent you the Conventional Defense Study Group's report on the conventional forces of the North Atlantic Treaty Organization and the Warsaw Pact (GAO/NSIAD-89-23, December 1988), we indicated that two supplements would provide a more detailed description of the workshops that were convened to discuss the force balance issue and the papers we commissioned from workshop participants. This supplement contains the information on the workshops. Supplement B, issued under separate cover, contains the experts' papers.

Charles A. Bowsher

Charles A. Bowsher
Comptroller General
of the United States

Preface

This volume supplements the information contained in the Conventional Defense Study Group's report entitled NATO-Warsaw Pact: Assessment of the Conventional Force Balance (GAO/NSIAD-89-23, December 1988). This supplement provides a more detailed description of the topics covered during the U.S. and Soviet perspectives workshops.

The Conventional Defense Study Group was established by the Congress under the National Defense Authorization Act for Fiscal Years 1988 and 1989.[1] The Group was charged with providing a report to the Congress on the conventional forces of the North Atlantic Treaty Organization (NATO) and the Warsaw Pact, with emphasis on the forces within the Central Region. Section 1212(b) of the act states, in part:

"The Comptroller General of the United States shall convene and chair a Conventional Defense Study Group composed of representatives of the Library of Congress, the Office of Technology Assessment, and the Congressional Budget Office. The study group shall assess the balance of conventional forces in Europe between the forces of the North Atlantic Treaty Organization and forces of the Warsaw Pact and shall submit a report on such assessment to the Secretary of Defense and the Committees on Armed Services of the Senate and House of Representatives. The report shall...provide—

(1) the study group's assessment of that balance of forces; and

(2) recommendations on improving that balance so as to provide for a more adequate conventional defense for NATO."

To address this legislative requirement, the Study Group convened two separate panels of experts to obtain their views on the force balance issue from both U.S. and Soviet perspectives. The first workshop, sponsored by GAO on April 12, 1988, addressed experts' views of the U.S. perspective of the balance. The second workshop, sponsored by the Office of Technology Assessment (OTA) on April 22, 1988, addressed experts' views of the Soviet perspective of the balance.

As Chairman of the Study Group, the Comptroller General directed the overall effort resulting in this report and participated in the selection of workshop participants, research topics, and the general framework for the discussions. The views and opinions in this report and the supplements reflect those expressed by the participants during the workshops and in their papers written in support of specified force balance topics.

[1]Public Law 100-180, section 1212, December 4, 1987.

These views and opinions, therefore, do not necessarily represent those of GAO or other participating offices.

Following the workshops, copies of the report drafts were sent to the respective participants for comment. Participants were also given the opportunity to revise their papers based on the workshop discussions.

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Abbreviations

AVF	All Volunteer Force
CINC	Commander-in-Chief
CINCENT	Commander-in-Chief, Allied Forces, Central Europe
CPSU	Communist Party of the Soviet Union
CONUS	Continental United States
ERA	Explosive reactive armor
FEBA	Forward edge of the battle area
HNS	Host nation support
INF	Intermediate-range nuclear forces
JCS	Joint Chiefs of Staff
MLRS	Multiple Launch Rocket System
NATO	North Atlantic Treaty Organization
POL	Petroleum, oil, and lubricants
POMCUS	Prepositioning of Material Configured to Unit Sets
SACEUR	Supreme Allied Commander, Europe
TVD	Theater of Military Strategic Actions
WEU	Western European Union

Experts' Views of the U.S. Perspective of the NATO-Warsaw Pact Conventional Force Balance

Participants in the workshop addressed four categories of elements: (1) the assessment of the NATO-Warsaw Pact conventional balance in the Central Region, (2) deficiencies in NATO's conventional forces, (3) recommendations for alleviating those deficiencies, and (4) a general estimate of the cost implications of implementing the recommendations and their feasibility within planned levels of defense spending by NATO countries. The discussion emphasized weaknesses that could force NATO to halt conventional operations and use nuclear weapons to avoid defeat. Participants identified improvements—especially those available at little or no financial cost—that the United States and the allies could make in peacetime to eliminate or mitigate the effects of those elements that could give the opposing side an overwhelming advantage.

Participants confined their discussion to conventional defense of the Central Region. They did not address the NATO-Warsaw Pact nuclear balance, although they recognized the importance of the U.S. nuclear deterrent to European defense. They also did not address the NATO-Warsaw Pact balance in the northern and southern flanks, the role of U.S. naval and other forces in NATO operations outside the Central Region, and contingencies in other regions that might affect U.S. and Western European conventional force requirements.

With the exception of combat sustainability, participants did not assign specific dollar values to proposed improvements. There were few recommendations for specific reallocations of funds between program elements in the U.S. defense budget. Instead, participants described budget issues and priorities in general terms. Participants also discussed improvements requiring additional resources and emphasized that many of their recommendations, some having little monetary cost, would involve significant political costs. Political costs might include increased U.S.-European military cooperation, buildup of the integrated NATO command structure at the expense of sovereign rights, and U.S. recognition of increased Western European autonomy on defense issues.

Introductory Remarks

In opening the workshop, Comptroller General Charles A. Bowsher stated that this is an opportune time to address improvements in NATO's conventional defense. He noted that many issues that Congress must address, including the Intermediate-Range Nuclear Forces (INF) Treaty and budget issues, are related to a review of NATO's conventional defense capabilities.

In introductory remarks, Representative Charles E. Bennett stated his belief that current U.S. defense spending gives priority to exotic weapons that do not benefit U.S. ground forces while there is a lack of spare parts for these forces. He expressed concern about the credibility of NATO's present stance. He acknowledged that mutually assured destruction had deterred attack, but added that Warsaw Pact leaders might doubt that NATO could make a decision to use nuclear weapons in the 10 days to 2 weeks that General Bernard Rogers, former Supreme Allied Commander, Europe (SACEUR),[1] said NATO forces could sustain conventional fighting.

Representative Bennett said that nuclear war is unlikely but that conventional war is more probable given the current capabilities of NATO forces. Increasing conventional capabilities would make such a war less likely. His goal is to strengthen NATO conventionally so that it can resist any aggression that might occur without confronting a decision to use nuclear weapons.

Representative Bennett criticized the lack of interoperability of NATO weapons and the U.S. provincial attitude that U.S. forces be equipped only with U.S.-made weapons. He joined Senator Sam Nunn in sponsoring legislation allowing European nations to participate with the United States in coproduction of weapons and recommended increased U.S. procurement of European-made military equipment. He also criticized duplication of systems by U.S. forces and within NATO, noting problems of incompatible communications systems and weaknesses in NATO's command and communications channels in Europe.

Representative Bennett expressed concern about NATO's quantitative inferiority to Warsaw Pact forces in tanks and artillery, although he acknowledged the difficulty of comparing tanks with different capabilities. He said that the United States should put combat equipment retired from active units into storage, as the Soviets do, for use during mobilization. He emphasized the importance of improvements in ground forces' capabilities, stating that only these forces can occupy territory and win a war.

[1]The SACEUR is responsible for ensuring the security of Western Europe by unifying allied defense plans and by strengthening allied military forces in peacetime and planning for their most advantageous use in time of war.

The Budgetary Context: U.S. and European Defense Spending

Participants agreed that any improvements in NATO's conventional capabilities in the Central Region would occur in the context of stable or falling real U.S. defense spending. One participant estimated that the U.S. defense budget would experience zero real growth over the next 5 years. The U.S. military buildup of the 1980s, characterized as exceptional, is over.

U.S. defense spending remains historically high. Estimated average annual defense expenditures, adjusted for inflation, were $202 billion during the 1950s, $225 billion in the 1960s, $211-212 billion in the 1970s, and $290 billion during the 1980s. Most participants agreed that there are enough funds for conventional force improvements, depending on how the United States allocates the funds among defense programs.

One expert estimated the total replacement cost of U.S. military equipment at $2.6 trillion, of which $1.2 trillion would be for aircraft. If the United States replaced the Soviet inventory of combat equipment with U.S. systems, the cost would be $2.2 trillion. In other words, the United States could have bought equipment at the same levels as the Soviets had, but it did not do so. The United States simply chose to procure a mix of defense equipment that was more expensive. He said the Defense Department had told Congress that the United States would oppose a Warsaw Pact offensive with aircraft and helicopters, not ground forces. He recommended a reallocation of programmed funds from aircraft to ground forces equipment.

One participant stated, however, that the fiscal year 1989 budget has led to reductions in the size of all the services. In addition, further retrenchment in force structure is anticipated over the next 5 years due to budget shrinkage. In his view, such force reductions are likely to lead to the withdrawal of some U.S. forces from Europe, either unilaterally, through an agreement with the allies, or as part of mutual U.S.-Soviet troop reductions.

The Defense Department is now engaged in potential reductions of hundreds of billions of dollars a year in defense spending from that programmed several years ago. With the current political process and defense management structure, such reductions could lead to a significant shift in the balance against the United States and NATO. With management improvements, however, there could be sufficient funds for significant conventional enhancements.

Participants noted that NATO European countries are not likely to increase defense spending significantly but that Western European military budgets have been more stable than those of the United States. One participant cited a study that concluded larger countries pay a disproportionate share of alliance defense spending because smaller countries have a free ride on the larger countries' capabilities.[2] He said that reductions in U.S. defense spending might lead to increased European spending on defense. Others said that any increase is unlikely.

U.S. Spending for NATO Defense

U.S. spending for NATO defense is difficult to calculate because such estimates vary with assumptions, for example, of the portion of overhead accounts allocated to U.S. forces earmarked for NATO. One participant recalled that during the Carter administration's efforts to limit military spending on non-NATO programs, the Defense Department changed its calculations to define as much defense spending as possible as NATO-related.

Spending for NATO defense absorbs a very large portion, if not the majority, of the U.S. defense budget. Participants estimated, based on the Defense Department's figures, the U.S. contribution for NATO defense at about 4 percent of the gross national product per year, or 60 percent of the defense budget. Another participant said that the U.S. contribution to NATO was underestimated. In his opinion, three-fourths of the U.S. general purpose forces are allocated to NATO, consuming about 80 percent of the defense budget. Others, however, questioned this calculation, noting that allocating three-fourths of U.S. defense spending to European defense requires an extraordinary allocation of overhead costs.

One participant estimated that it costs the United States between $50,000 and $60,000 per year to maintain each U.S. military person in Europe, including costs for military dependents. He noted that about 640,000 U.S. military-related personnel are in Europe: 325,000 in uniform, 200,000 military dependents, and 110,000 civilians.

U.S. Funding for Sustainability

Several participants emphasized that U.S. funding for sustainability has been limited in the 1980s because of the low priority assigned to it by the United States. Funding in these areas was relatively low during the tight defense budgets of the late 1970s and has remained low despite a substantial increase (about 50 percent in real terms) in overall defense

[2]Manse Rollson and Richard Zeckhauser, "Alliance Defense Spending as a Public Good."

spending. One participant noted that the military services' preference for modernization and force structure expansion—at the expense of readiness and sustainability—has persisted even when absolute budget levels increased significantly, as they did in the early 1980s. Another added that although modern weapons can enhance sustainability, funding for sustainability is highly vulnerable to reductions when the Defense Department needs to find funds quickly for other programs.

The Nichols-Goldwater Act[1] has increased the role of U.S. field commanders in the budget process to a certain extent. Before the act, U.S. commanders largely had to work with the forces they were given. As a result of the act and the actions of the Chairman of the Joint Chiefs of Staff (JCS), readiness and sustainability have become more of a concern than modernization. An example cited was a letter sent by the JCS Chairman to the Secretary of Defense in response to a proposal to build two new aircraft carriers. In it, the Chairman said that the military had other needs, including ammunition. One participant noted that, even with the passage of the Nichols-Goldwater Act, the sustainability budget continues to be cut disproportionately to the rest of the budget.

Improvements in Defense Management

Problems in the management of U.S. defense programs have weakened the effects of the U.S. military buildup, including improvements in conventional capabilities. One participant stated that before 1980, U.S. nuclear superiority allowed the United States to sidestep its more difficult conventional defense problems. He said that the military buildup beginning in 1981 was imperative and had reversed many deficiencies in terms of our overall strategy but that new problems have surfaced whose resolutions require leadership, not consensus. Continued decentralized solutions to the problems of the future will guarantee inefficiency.

A mismatch of U.S. strategy and the defense industrial base still remains. The defense industrial base infrastructure is global in scale, and the impact of this fact needs better understanding. The U.S. defense buildup was inefficient because it was unplanned.

[1]Public Law 99-433, October 1, 1986.

The Political Context: Stronger NATO Defense

The participants called for an emphasis on strengthening NATO. One called for an emphasis on improvements in NATO defense and cautioned against a reduction in the U.S. commitment to Europe. He said he favored a situation, over the next 10 to 15 years, in which (1) the Europeans have a much greater role in their defense, (2) both NATO and the Warsaw Pact demobilize significantly with a greater reliance on reserve forces, and (3) military spending on both sides is substantially lower.

Another said NATO should aim at a force that deters the Warsaw Pact and reassures NATO in a crisis. He expressed concern that the Soviets could undermine NATO unity by playing on fears by the European public that they faced a choice of "red or dead." Such fears, based in part on continued statements of NATO conventional weakness and nuclear parity, could undermine European political leaders in a crisis.

Continued U.S.-European Link

According to the participants, the United States will remain tied to Western Europe for the next 10 to 20 years, primarily because of European perceptions of their military potential compared with the Warsaw Pact. An adjustment in the U.S.-European relationship is likely, due in part to emerging European political autonomy. This autonomy will probably lead to the Europeans' taking more responsibility for ground defense but will not lead to the United States' withdrawing from Europe totally or cause NATO to disband.

One expert noted that the Western European nuclear deterrent would not be sufficient without a very important supplement of U.S. nuclear deterrent, even if there were NATO-Warsaw Pact force reductions. He expected this situation to continue. The U.S.-European link is needed to prevent the extension of Soviet influence over Western Europe.

The United States also needs the link with Europe for economic reasons, and it benefits from European cooperation outside NATO, such as the Western European Union (WEU) members' military presence in the Persian Gulf, and political-economic cooperation in third-world countries.

U.S. Troop Withdrawal

Participants were sharply divided on whether the U.S. military presence in the Central Region should remain at or near its present level. One participant recommended the withdrawal of one-third to one-half of the U.S. troops in Europe and their dependents, from a total of 640,000 to about 400,000 (including civilians and dependents), over a 5-year

period. In his view, such a reduction could be made by gradually hollowing out U.S. divisions in Europe by withdrawing, for example, a brigade from each. He recommended withdrawing troops but not equipment, which would be left for European forces to use. He distinguished this from a withdrawal of U.S. forces, which would involve both personnel and equipment.

He also proposed using the money saved in personnel costs to fund a substantial increase in combat stocks such as the Multiple Launch Rocket System (MLRS) munitions. The United States could procure 10 MLRS rounds for the average annual cost of maintaining one U.S. military person in Europe. Such an exchange would greatly enhance NATO's defensive position. He also proposed filling out U.S. divisions with Turkish troops or European reservists. He saw no reason why the United States could not merge some units and flesh them out with allied troops. One participant agreed that the United States should consider withdrawal of a portion of its troops from Europe, noting that NATO Europe has a large population and large numbers of reserve forces.

Others opposed the idea of large-scale U.S. troop reductions from Europe. One said that the above proposal represented a point of view that was as isolationist as any to come out of the United States since the 1930s. He said that Europeans would refuse to replace U.S. troops if they believed the United States was abandoning them. Another said that, to preserve U.S.-European ties, U.S. troop withdrawal from Europe should not be abrupt or unilateral and should occur in the context of arms control agreements.

U.S. troop reductions would only be possible in the context of a reinforcement of the U.S. commitment to Europe, according to one expert. He said that the military upheaval involved in substantial U.S. troop withdrawals required a strengthening of U.S.-European political stability. He added that the U.S.-Soviet summit at Reykjavik was only the most recent example of U.S. actions leading to European concerns because Europe relies on the United States for its security.

The Conventional Balance

Despite the problems of measuring NATO and Warsaw Pact forces, participants agreed that NATO's peacetime deterrent position is good and that its conventional capabilities have improved over the last decade. Likewise, they agreed with the assessment of the JCS Chairman that a war is unlikely in the next 5 years.

At the same time, the participants believed that NATO would probably lose a conventional conflict if war occurred. As one participant noted, because NATO is a defensive alliance, it concedes to the Warsaw Pact the choice of the time and place of attack and the concentration of forces at the axes of advance, as well as an advantage in mobilization. Several participants concluded that NATO could not conduct conventional operations for more than a brief period (days or a few weeks). One participant said that NATO's operations might last only 3 to 5 days due to logistic problems (see Logistics section). Another expert, however, disagreed, saying that such estimates do not measure how long NATO would continue to fight, which would depend on the intensity of war; the degree of prewar combat preparation and ammunition sharing; and the results of initial combat.

From a multi-scenario analysis of the current NATO-Warsaw Pact balance, participants concluded that NATO is not so hopelessly outnumbered that conventional defense would fail or that NATO would necessarily contain a Warsaw Pact offensive. Uncertainties about prewar preparations and wartime events make both outcomes possible under different scenarios, although more scenarios favor the Warsaw Pact than NATO. Thus, the importance of specific conventional defense improvements to the outcome of a conflict could depend on relatively small changes in assumptions (for example, one of the NATO allies mobilizes more slowly than the others) about the type of war that would be fought.

NATO Strategy and Exercises

According to one participant, NATO is not organized to fight and win a conventional war. For example, NATO does not evaluate its readiness, plans, and options in terms of war-fighting effectiveness. In his view, the worst situation NATO could face in conventional defense would be the delayed forward deployment of Dutch and Belgian forces and other forces, resulting in very weak areas lightly covered by German reservists. Accordingly, the alliance should change its interpretation of MC 14/3 (the NATO Military Committee document, adopted in 1967, setting forth its strategy of "flexible response") to emphasize conventional defense.

He also criticized NATO command-post exercises as being constrained by political considerations and failing to address potential problems, such as delayed deployment and errors in assessments of Warsaw Pact actions. The Soviets have an advantage because they are serious military planners and conduct exercises to test responses to adverse situations.

Another participant, however, defended U.S. field exercises in Europe as very realistic. Although U.S. exercise scenarios are written to limit U.S. forces to the areas where they are stationed and test specific objectives, within the general scenario, they allow free maneuver and permit troop commanders to make decisions. He acknowledged that the West German Army (the Bundeswehr) exercise scenarios are more detailed and controlled. These exercises are designed to teach conscripts how to operate on the battlefield and do not encourage independent thinking by subordinate leaders (a criticism also made of Soviet exercises). Bundeswehr forces have high readiness despite the limitations of their exercises. In his view, the criticism of NATO planning is not valid.

Measuring the Balance Through Multi-Scenario Analyses

Participants discussed the difficulty in measuring the NATO-Warsaw Pact conventional balance. They avoided direct comparisons of manpower, divisions, and combat equipment, noting that such estimates ignore qualitative factors and imponderables such as leadership that can be decisive. There is probably no single balance of forces in the Central Region due to the different assumptions and judgments that go into making such a comparison.

One participant said that the United States builds its forces on an offensive-defensive ("face-to-face") basis against Warsaw Pact forces but compares them on a weapon-for-weapon ("side-by-side") basis. For example, the United States develops antitank weapons and "smart" munitions to oppose Warsaw Pact tank forces, but such a defense makes NATO appear deficient in a direct comparison of NATO and Warsaw Pact tank strength (especially in comparisons of total inventories rather than late-model tanks). Thus, a Central Region assessment of balance of forces has no meaning to NATO commanders or political leaders. Another participant agreed that NATO-Warsaw Pact assessment methodology does not provide a guide to the outcome of a NATO-Warsaw Pact conflict.

Comparisons of U.S. and Soviet military manpower do not take into account the intelligence and greater training of the U.S. volunteer force and its higher unit activity levels. One participant agreed with Senator Levin's study Beyond the Bean Count, which notes that during semi-annual troop rotations, 25 percent of Soviet divisions in Eastern Europe have received no training, while all U.S. forces in Europe have undergone at least 6 months of basic training. Although the effects of such factors are difficult to quantify, the quality of U.S. military personnel exceeds that of Soviet conscripts.

Another difficulty in comparing NATO and Warsaw Pact forces is incomplete information. Beyond limited comparisons, there is relatively little information on Warsaw Pact forces. The United States has little knowledge of Warsaw Pact combat capability.

Information problems apply to estimates of NATO as well as Warsaw Pact capabilities. One participant said that NATO countries tend to conceal information from each other. They emphasize good points and ignore problems in responding to NATO's Defense Planning Questionnaire. He attributed this problem to a lack of trust among NATO countries.

In contrast, another participant defended the honesty of NATO estimates and reporting. He noted that NATO commanders can attach their own assessments of the shortcomings of forces in their sectors but they rarely do. Ultimately, he said, NATO force capabilities are a national responsibility, and NATO commanders trust the national ministries of defense and military organizations to train their forces and prepare them for war. He said it is not a fair criticism to say that NATO is not honest and realistic or that NATO lacks a decent force in the field.

It was suggested that multi-scenario analyses be used as an approach to overcome difficulties of standard net assessments. Multi-scenario analyses model the effects of scores of factors, including quantitative force levels, on a vast range of plausible NATO-Warsaw Pact scenarios. The scenarios feature, for example, differing assumptions about political-military factors, warning times, mobilization times, alliances, operational strategies and tactics, force effectiveness, troop quality, rates of advance, and attrition. By comparing scenarios in which such factors go "right" or "wrong" for each side, analysts can identify the importance of changes in capabilities under different circumstances.

Under this approach, the relative importance of improvements changes drastically depending on the scenarios and assumptions used. For this reason, analysts need to focus on many different scenarios because improvements that have great value in some cases may have no value in others. For example, improvements in sustainability have no value if one believes that a NATO-Warsaw Pact conventional conflict would be too intense to last very long. Conversely, sustainability becomes much more important if one believes that a NATO decision to use nuclear weapons is not a credible option and that a NATO-Warsaw Pact conventional war might, therefore, be prolonged.

U.S. and Soviet Personnel Readiness

Readiness was defined as the ability of military units to perform their initial, assigned tasks with little or no notice. Readiness applies to both military personnel and equipment (the workshop focused on personnel readiness). Participants agreed that U.S. personnel readiness has improved during the 1980s and exceeds Soviet troop readiness. The importance of readiness to NATO was stressed because the Warsaw Pact would have the initiative in a conflict.

Active Forces

The improved readiness of U.S. active forces can be attributed to the All Volunteer Force (AVF). The AVF is a "low-flow" force, that is, a low accession, high retention, experienced force, with relatively few personnel in training. AVF personnel receive extensive technical training and engage in frequent and realistic combat exercises. Large amounts of money were spent in the early 1980s to increase the quality of personnel in the AVF.

The AVF was contrasted with Soviet conscript forces, which experience a high turnover of lower quality, less experienced personnel whose combat training is less frequent and realistic. Better individual training and more experience lead to superior U.S. performance in all but the least skilled positions. While it is difficult to measure the effects of activity rates of collective or unit training and exercises on unit performance, the higher activity levels of U.S. forces suggest that they are qualitatively superior to Soviet forces in a no-notice combat situation.

Reserve Forces

It was further observed that the AVF has important implications for U.S. reserve forces. Because the AVF emphasizes troop retention rather than turnover, fewer trained military personnel are available for U.S. reserve units. As a result, the United States must provide additional individual and unit training to reservists with no prior service. Without such added training, the quality of reservists would be reduced. In contrast, the high-flow Soviet conscript force continues to provide reservists with previous military experience to man category II and III divisions that would need to be mobilized in a Warsaw Pact offensive.

The importance of readiness for reserve forces depends on their deployment schedule. There is a trade-off between current readiness and warning time. Given sufficient warning, reserve readiness would depend almost entirely on the quality of plans to achieve readiness prior to deployment. The peacetime readiness of the unit would be less important. Conversely, if, as many participants believed, strategic warning of

a Warsaw Pact offensive were unavailable or, more likely, unheeded, the United States would need to deploy reserve units rapidly, and their peacetime readiness would become more important.

The quality of U.S. reserves is important to NATO because of the United States' extensive reliance on the reserves for its combat support structure. One participant said that the Achilles' heel of U.S. forces in Europe is not only their lack of supplies but also the lack of personnel in combat service support. Another participant agreed that the low-flow AVF means that combat support for these forces is uncertain. There is currently a shortage of medics in the U.S. reserves, and the allies claim they cannot meet U.S. needs for military health care personnel.

Any U.S. ground forces returned from Europe through a troop reduction would need to be taken out of service because the continental United States (CONUS) Army installations have no room for them. One participant confirmed that all U.S. division-level posts are occupied. Another said that U.S. active forces could not be transformed into reserves. Instead, the active units would be decommissioned, and the Army would need to create entirely new reserve units "from scratch." The Army would need to locate such reserves in areas where the necessary reservists can be recruited, not in locations that would facilitate deployment to the Central Region in a crisis.

Thus, the withdrawal of U.S. combat troops from Europe is likely to increase U.S. reliance on reserves at a time when the availability of trained military personnel in the reserve pool is likely to remain low. Such a situation underscores the importance of reserve training and of usable strategic warning to achieve readiness prior to deployment.

Mobilization

Mobilization refers to the creation of additional forces (personnel and equipment) over time. Most participants agreed that the Warsaw Pact would have an advantage in mobilizing additional combat forces in all situations except a very long mobilization by both sides. As one participant noted, it would be easier for the Warsaw Pact than for NATO countries to mobilize reserves due to NATO's political and financial constraints. Another participant, however, noted that if both Warsaw Pact and NATO reserves were mobilized, Warsaw Pact forces would not have a substantial superiority in combat personnel.

How War Might Start: A Soviet Covert Mobilization Scenario

One participant described a potential Soviet attack scenario that he believed would be especially challenging to NATO. In this scenario, the Soviets would conduct a long, slow mobilization, marked by false starts and conciliatory actions, in which no single event would trigger a U.S. or NATO mobilization response.

The Soviets might conceal such preparations as the correction of past deficiencies in troop training and equipment maintenance, especially for category III divisions, the lowest category of readiness for Soviet and East European forces. Although NATO might detect most or all of these preparations, none would be sufficiently alarming to convince NATO leaders to pay the political and economic costs of mobilization. As a result, the Soviets could amass superior forces for attack.

Several participants found this scenario both plausible and troubling. One participant cited an article on the failures of strategic warning. He noted past instances in which political leaders had failed to act on strategic warning even when they had very good intelligence. He recalled the offensive in the 1973 Yom Kippur War, in which the Egyptians surprised the Israelis after a series of exercises simulating an attack. Israeli troops had falsely mobilized on so many occasions that it weakened their response.

Others expressed doubt that the United States would respond to a protracted Soviet buildup. One believed that U.S. officials would look at each incident in isolation and not react to the cumulative set of warning indicators by asking Congress for the substantial supplemental appropriations that would be required to fund a large-scale mobilization. Another agreed that NATO political leaders would probably not respond to avoid appearing provocative. He noted that European exercises do not increase readiness levels for this reason.

One participant, however, disagreed that this scenario was plausible, no matter how negative Soviet intentions were assumed to be. He argued that historical cases of the failure to heed strategic warning did not involve a U.S.-Soviet nuclear confrontation. He said NATO decisionmakers need to assume that the Soviets are rational and able to measure what they would achieve by an attack on Western Europe against their costs. In his view, the scenario is irrational because the Soviets could achieve many of their objectives in Europe at less risk.

He further argued that NATO could detect and respond to such full-scale Soviet mobilization. The United States would be able to detect Soviet

mobilization steps such as improvements in the readiness of category III divisions. It is expected that U.S. intelligence capabilities will improve in the future. Future arms control agreements could improve NATO's ability to obtain warning. NATO's force mobilization would not depend on a formal decision by all the members of the NATO Council but on U.S. and West German political leaders, especially the West German Chancellor. The United States cannot predict or prepare for the Chancellor's response.

He contended that only two contingencies are likely to lead to a NATO-Warsaw Pact war in Central Europe: (1) a large uprising in East Germany and (2) the spillover of a conflict outside the Central Region that involves combat between U.S. and Soviet forces. Because he believed that these are low-probability events, he viewed the current situation in Central Europe as stable and a Warsaw Pact offensive as unlikely.

Warsaw Pact Advantages and Limitations

The participants pointed out that the Warsaw Pact has greater mobilization capability than NATO because the political decision to mobilize would be made solely within the Soviet Union. The Warsaw Pact also has surplus combat equipment with which to equip additional forces. NATO has the manpower for mobilization but lacks both existing combat equipment and the industrial base to produce additional equipment and munitions within, for example, a 6-month period.

Two participants concluded that the Soviets lack sufficient forward-based forces and reliable reserves to launch a short-warning attack (for example, after 2 to 3 days of mobilization) against NATO with an overwhelming superiority of forces. One said that Soviet forward forces are not ready. The Warsaw Pact would have difficulty fielding more than 30 divisions for minimum preparation attacks, and NATO could deploy nearly equal divisional manpower from U.S., United Kingdom, and West German forces alone. Moreover, the Warsaw Pact would not have command of the air over the NATO area.

He also argued that the Soviets could not mobilize their category III divisions in the western Soviet Union in 10 days, or quickly enough to gain superiority in a medium-warning attack (for example, after a 2-week mobilization). Non-Soviet Warsaw Pact forces would be even slower to mobilize. He said that NATO estimates of such an attack overrate the speed with which the Soviets could raise the readiness of these forces and deploy them. He noted that this process took months during the Soviet interventions in Czechoslovakia and Afghanistan.

He further noted that NATO estimates of the NATO-Warsaw Pact balance fail to take account of NATO's ability to mobilize and deploy additional forces using Prepositioning of Material Configured to Unit Sets (POMCUS) equipment for U.S. divisions airlifted from CONUS and Bundeswehr reserve units. He observed that NATO estimates subtract troops from its front-line forces to provide rear-area defense but make no comparable reductions in Warsaw Pact forward strength. He believed that NATO could effectively match Warsaw Pact forces in all three types of attack scenarios: (1) short preparation, (2) medium warning, and (3) long mobilization. This view, however, was not held by all participants.

NATO Mobilization Deficiencies

Participants agreed that U.S. mobilization capability is limited. Some of these deficiencies relate to reserve manpower, such as limited ability to exploit a 6-month mobilization. The United States has relatively few personnel in or entering the reserves and a limited ability to expand its industrial base.

One participant observed that, in a longer mobilization, personnel would not be a problem because the Selective Service System could immediately institute the draft. The military training establishment could expand to train recruits, and, in any case, personnel mobilization is a question of U.S. and European political resolve, not of resource constraints. Another participant noted, however, that training draftees in the use of sophisticated weapon systems would take a long time.

If the United States called up additional units, it could not equip them. Unlike the Soviets, the United States does not "mothball" older-model ground force combat equipment on which it could draw to equip additional forces. The United States has some long-term plans to improve this situation marginally, but these plans do not significantly reduce the time required to produce munitions and combat equipment.

The main U.S. mobilization problems stem from the inability of the United States to expand defense production significantly. There is a shortage of strategic materials needed for increased production of combat equipment and supplies. One participant called attention to the absence of a cold industrial base for "smart" weapons and munitions. Because "dumb" munitions are made at government facilities, the United States can restart or increase their production over time. There is no comparable standby capability for the production of smart weapons because private industry makes them under contract and dismantles the production facility upon completion of the contract. Another participant

noted that the U.S. industrial base is determined by peacetime concerns for efficient production with minimal "excess" capacity. No one pays to keep private facilities in existence.

The industrial base problem would decrease during a prolonged U.S. mobilization, for example, if the United States responded to a very long strategic warning. One participant stated that increases in U.S. and Western European defense production could result in a major shift in the balance of NATO-Warsaw Pact forces over a 6- to 12-month period. He said that the U.S. industrial base is the most flexible and creative in the world. The United States could substantially increase its defense industrial base in 12 to 18 months, but this would be very costly.

Sustainability

Sustainability refers to the ability of U.S. forces to conduct combat operations over time. Sustainability is a function of consumption rates. Because sustainability is measured in stocks for days of combat operations, increased consumption of munitions and combat equipment can offset larger stocks of war reserves. Participants also emphasized the difficulty in measuring sustainability. One participant stated that U.S. commanders do not know whether they have enough stocks because there is no common methodology to make sustainability calculations.

The requirements for combat sustainability depend on assumptions about the conduct of a NATO-Warsaw Pact war, the availability of strategic warning of a Warsaw Pact offensive, and NATO actions in response to such warning. If adequate strategic warning were available and heeded, sustainability requirements for stocks on hand could be reduced in favor of greater emphasis on industrial mobilization. The risk in planning on strategic warning, however, is that it may be unavailable or unheeded. One participant stated that there has never been agreement within the Office of the Secretary of Defense on the basis for calculating sustainability requirements.

NATO Sustainability Deficiencies

Participants agreed that Warsaw Pact forces have an advantage over NATO in combat sustainability, although the degree of superiority in this area was debated. If NATO began to take conventional defense seriously, "sustainability could become the limiting factor, and is perhaps the limiting factor today," according to one participant. Warsaw Pact forces have greater sustainability than U.S. or Western European forces, though some questioned whether the Warsaw Pact's lead in this area was large.

Several participants agreed that existing U.S. combat sustainability is inadequate. The current U.S. sustainability requirement is for a 60-day supply of combat support reserves, with a 90-day supply as the eventual goal. Existing stocks are well below these levels. The U.S. lack of combat supplies is a major weakness in conventional operations. Despite improvements, U.S. sustainability remains below requirements. The United States does not have sufficient combat equipment for its units, let alone replacements. The problem is not in the amounts of petroleum, oil, and lubricants (POL) available before mobilization but in distribution (see Logistics).

There was a major improvement in the sustainability of U.S. ground forces in the Central Region in the early 1980s. This improvement was due to the movement of existing U.S. combat equipment to Europe under the POMCUS program.

U.S. and European Stock Levels

Some participants called attention to the argument, expressed in Congress and elsewhere, that the United States should not increase its combat stocks in Europe until the Europeans raise theirs (they are below U.S. levels). However, one participant said that freezing the levels of U.S. combat stocks would place the United States in an untenable position. In his view, it is unacceptable to say that the United States will not buy more stocks because the Europeans have less.

Another participant stated that once U.S. forces have engaged in a NATO-Warsaw Pact conflict, the United States should see it through; however, the U.S. defense production base could not accommodate European requests for combat stocks in a crisis. In his opinion, U.S. wartime production may not meet U.S. sustainability requirements, much less those of the allies. He also argued that the sustainability problem could be solved by a U.S. troop withdrawal that left munitions and equipment behind for use by European reserve forces.

Vulnerability of U.S. combat equipment and supplies in Europe, due to their location in a few warehouses, was of concern to the participants. One participant conceded that POMCUS equipment is vulnerable to a short-warning attack but pointed out that the use of POMCUS equipment is based on the assumption that there will be 10 days of warning before a Warsaw Pact attack. If such warning were available, POMCUS would be the most efficient means of meeting the U.S. commitment to have

10 divisions on line in the Central Region in 10 days. POMCUS also provides a hedge against the breakdown of the sea lines of communication across the Atlantic.

Logistics

Logistics is usually considered part of sustainability and refers here to the system by which combat supplies are delivered to forces in the forward area. Improvements in sustainability can affect logistics requirements. For example, in response to a recommendation to expand funding for MLRS munitions, one participant said that the current logistical system could not support MLRS resupply because of the MLRS's high rate of fire.

NATO Logistics Deficiencies

Participants stressed that NATO's logistics weaknesses are even more serious than its limited war reserve stocks in creating shortfalls in NATO's combat sustainability. As noted earlier, because of logistics problems, NATO forces would run out of combat supplies after 3 to 5 days of fighting. The allies are, based on NATO exercises, overly optimistic regarding their capability to handle the logistics requirements of U.S. forces during redeployment, but these exercises project only a small part of NATO's logistics requirements to oppose a Warsaw Pact offensive. While the SACEUR has an international staff that works with various NATO committees on logistics matters, the sovereign NATO nations retain ownership and control over logistics resources. Major NATO commanders, such as the Commander-in-Chief (CINC), Allied Forces, Central Europe, have no authority over logistics.

Although each member NATO nation has reached various agreements with other NATO nations on logistical support, such agreements are bilateral in nature and are neither controlled nor overseen by the NATO CINCs. Therefore, while NATO is structured to address logistical concerns at the highest levels, the CINCs need to have authority for logistical control rather than the sovereign nations.

U.S. forces in the Central Region lack logistics support. In the words of one participant, the United States "does not have one single troop in the combat service support area to provide logistic support to the Seventh Army.... Nothing behind the Seventh Army in logistic support is assigned to NATO." Further, he said that U.S. reserve units planned to assist reinforcements would not arrive in Europe until after the forces they were assigned to assist. This is a problem of strategic mobility and priority assignments.

Although the NATO pipeline would bring POL from rear areas close to NATO front lines, there are not enough tank trucks dedicated to U.S. forces to transport the POL to combat units. This is a problem for all NATO countries except West Germany, which will rely on civilian tank trucks.

U.S. logistics problems could be partly compensated for by West German reserve troops. In 1982-83, the United States made a Host Nation Support (HNS) agreement with West Germany for logistics support. In the agreement, the United States identified 95,000 spaces for West German support personnel: about 70,000 for the Army and 25,000 for the Air Force. West Germany agreed to organize individual reservists into units to support U.S. combat forces in Europe. The United States and West Germany would divide the costs of the personnel. Where there is equipment in U.S. inventories, the United States agreed to make it available to the West Germans. If the United States does not have such equipment, it agreed to purchase it. West Germany agreed to defray all costs of training, operating, and maintaining the support units. The United States wanted to expand the agreement, but West Germany said that it has severe manpower shortages in its own force structure and strongly resisted expanding HNS.

One participant acknowledged that there are bilateral agreements for combat support but said that an allied war effort needs more than bilateral agreements. NATO commanders must have some emergency command and control through their agreements between individual sovereign nations that possess the required resources. The bilateral agreements between allies should be compatible with such command agreements and should be the basis for such command-national agreements. NATO command-sovereign agreements should be effected in peacetime to make them immediately available in time of conflict. He said that allied countries, including the United States, do not share information about their bilateral agreements because they view the agreements as rights of sovereign nations and not within the responsibility of NATO. In some cases, U.S. commanders are not informed of support activities in their areas because they also hold NATO positions. This problem stems from the view that logistics is a national responsibility.

Warsaw Pact Logistics Problems

According to several participants, the Warsaw Pact also has logistics problems. As one participant observed, in the logistics area, "they have got as many problems as we have, and maybe that's the reason they haven't attacked." For example, he noted that Polish civilians could block transport routes and stop the main Soviet logistics effort, at least

temporarily. The Warsaw Pact would need to assign units to guard its lines of communication, reducing the Warsaw Pact forces available to combat NATO.

Refugee Problems

Another problem confronting NATO involves the possible disruption of NATO troop deployment and logistics support by the flow of refugees from the combat area. This problem is considered a major potential difficulty for NATO. West German and other European plans assume that civilians will remain in place in areas beyond a 35-kilometer zone from the forward edge of the battle area (FEBA), but this is unlikely.

West Germany plans to remove West German civilians from the combat evacuation area if political leaders decide to react to military warning signals to get them out. If not, West Germany has good movement plans to control refugees, according to one participant. West German territorial forces are capable and conduct exercises to keep roadways clear for military traffic and to divert refugees.

Most participants believed that the possibility of refugee disruption of logistics would be a problem for NATO but not the Warsaw Pact. The fact that ground combat would be on NATO, not Warsaw Pact, territory would reduce the probability and magnitude of a Warsaw Pact refugee problem.

Suggestions to Improve NATO's Conventional Balance

Multi-Scenario Approach

Participants concluded that the multi-scenario approach is more useful than static "bean counts" or formulations that consider only a small number of factors. They recommended that decisionmakers move closer to this type of analysis because it provides a way of determining how forces look when they are compared face-to-face. These models should depict the effects of events such as a breakthrough that dramatically changes the nature of a campaign. It was recommended that the analyses devote more attention to rear-area support and not focus solely on the FEBA.

Several participants called attention to the conclusion that the use of multi-scenario analyses to effect those conventional force improvements can best shift the range of probabilities in NATO's favor. They recommended that the U.S. aim in such improvements should be to increase the odds that NATO would do well in a NATO-Warsaw Pact conflict and, conversely, to raise the risks and uncertainties to Soviet leaders.

Mobilization

It was recommended that Congress pass legislation protecting a U.S. industrial base capability. A participant argued that arms control measures could increase available warning time and that the United States should have better industrial mobilization and increased sustainability. Another participant recommended that the United States give priority to achieving sustainability levels through increased stocks before it makes substantial financial investments in industrial base capacity.

One participant proposed to reduce the problem of smart weapons production by using dumb weapons in NATO's initial defense and conserving smart weapons for later fighting. Another participant disagreed, suggesting instead that smart rather than dumb munitions be used first in an effort to gain the advantage and stop the conflict as soon as possible.

It was also proposed that the United States stockpile smart subsystems, such as sensors, that are long lead time items under a rolling, or perpetual, inventory approach. Such a stockpile would ensure that increased production of weapon systems would not be delayed in a crisis by a shortage of highly technical components.

Questions about the probability of European production of smart weapons were raised. Getting European countries to come together to produce smart weapons would be difficult. A major problem of the European defense industrial base is its dependence on non-NATO countries, such as Finland, for explosives because of environmental restrictions in Western European countries. One participant urged that NATO-owned, contractor-operated facilities to produce and assemble munitions be established in Southern Europe, where government restrictions on such facilities are less stringent.

Costs

Developing an industrial mobilization capability would have major budgetary implications. Creating an adequate industrial base mobilization would be very costly, and some doubted that the United States would approve the required budget increases. The utility of the industrial

mobilization capability would be limited by the financial and political costs involved in attempting to use strategic warning—if such warning were available—to expand defense production. Congress has cut proposed funding to improve industrial production and compress production cycles in the past because such measures do not add to current military capability.

Sustainability

One participant recommended increased funding for sustainability to bring combat stocks to the point at which increased production could replace combat consumption of prestocked equipment. The period between the start of combat and this point is known as the D-day to production day, or "D-to-P," gap. It was recognized that there are increased costs for (1) the initial purchase of additional stocks and (2) for their periodic replacement or modernization. However, such costs would be less than substantially increasing the defense production base during peacetime.

It was agreed that NATO should build up its war reserve stocks to cover the period until the start of wartime production. Another participant noted, for example, that if NATO has 30 days of combat stocks and cannot produce new supplies until 60 days later, there is a 90-day sustainability requirement. If the Soviets have 60 days of stocks to NATO's 30-day supply, the Warsaw Pact would be able to outlast NATO conventionally, and NATO could not make up its combat support shortfalls by resupply because it would come too late. One participant argued that sustainability becomes more important and industrial mobilization less important during short war crises.

One participant stated that opportunities for sharing combat stocks are limited by the lack of commonality of a large portion of U.S. and NATO equipment, including U.S. equipment in POMCUS stocks. Host nation forces cannot operate POMCUS equipment because they do not have such equipment in their units and are not trained to use it. They are not even authorized to remove U.S. equipment from storage to avoid its destruction in a short-warning attack. He recommended that Congress prohibit prepositioning POMCUS equipment that cannot be utilized by host nation forces.

He recommended improvements in interoperability of U.S. and NATO equipment partly to offset the disparity in U.S. and European combat stocks. He argued that sharing munitions with the allies would reduce total NATO sustainability requirements because not all units would

expend munitions at the same rate every day. Interoperability of weapons would permit NATO commanders to shift munitions between forces of different nationalities.

NATO commanders currently have the authority to order forces under their command to draw, from other allies' stocks, items that are of common use or interoperable, such as ammunition, POL, and rations (for example, U.S. use of Bundeswehr supplies). This is one of the benefits of the NATO command structure and using interoperable weapons. (It was noted that a U.S. handbook scheduled for release in the near future will provide the first public information on the interoperability of U.S. munitions with those of other allies.)

One participant recommended that the United States buy additional combat supplies and plan to turn them over to the allies in wartime or that the United States find ways to persuade the allies to increase their reserves of common stocks. The problem with the latter approach, according to another participant, is that the Europeans believe the United States will not let them run out of combat supplies.

Costs

The allocation of about 1 to 2 percent of the U.S. defense budget over a period of years can dramatically improve U.S. combat sustainability. It was calculated that this rise in funding would mean a spending increase of $3 billion to $6 billion per year. This figure covers the cost of munitions for U.S. ground forces and unsophisticated air-to-surface munitions. It does not include the procurement of major combat equipment or highly technical air-to-air missiles.

In contrast, one participant estimated a one-time cost of $75 billion to procure a 60-day supply of all combat support stocks for U.S. and NATO forces. He estimated that the United States and NATO have spent $130 billion on munitions and missiles over the last 2 decades. Improvements in efficiency, including standardization of equipment, would have saved an estimated $60 billion, or most of the cost of making up the existing shortfall in sustainability.

Logistics

One participant suggested that many of NATO's logistics problems can be solved by planning and organizational changes. These are no-cost or low-cost improvements, but they require the U.S. and European allies to make concessions involving sovereign rights. He advocated implementation of the recommendations of the Logistics Task Force that NATO

adopted as part of the Long Term Defense Program of 1978. These stress the need for multinational logistics as a NATO responsibility. He also recommended appointment of a single NATO authority for the Central Region who would be empowered to direct all combat support, assign priorities in transportation, and resolve logistics bottlenecks.

Increased use of European reservists for combat support was also recommended. Western European countries have trained hundreds of thousands of military personnel per year and should be more involved in logistics support. There should be a way to restructure European reserves into useful units to alleviate U.S. shortages in combat support, both for U.S. forces stationed in Europe and for those designated for rapid deployment there. European resources should be harnessed to address U.S. problems related to NATO defense.

Proposals for European Initiatives

Participants identified several actions that Western European countries might take to improve NATO's conventional defense in the Central Region. These involve French cooperation with other Western European countries, force specialization among NATO countries and joint equipment procurement, constructing barriers in West Germany, restructuring the forces required to conduct NATO's initial defense against a Warsaw Pact attack, increasing the size of European reserve forces, deploying some Italian and Turkish divisions to the Central Region, and encouraging Western European political cohesion and changes in defense spending.

Additional French Cooperation

France is increasing its defense cooperation with other Western European countries such as the United Kingdom and West Germany. A recent agreement between France and Great Britain permits British use of French ports and airfields under certain circumstances in peacetime as well as wartime. British-French logistics cooperation is expected to increase. It was recommended that the United States encourage similar French agreements with other members of the WEU. Such agreements could lead to eventual French permission for U.S. use of its ports, airfields, and other lines of communication in peacetime and during prewar mobilization and deployment. It is expected that France will conclude agreements with the WEU countries within the next 5 years.

France is also expected to increase its defense cooperation with West Germany by more joint planning and by prepositioning supplies for its helicopter-borne reaction force within the same period. France can provide the operational reserves that NATO currently lacks.

Force Specialization and Joint Procurement

Another proposed initiative would be to encourage greater force specialization among NATO European allies. For instance, the Dutch defense minister has expressed an interest in increasing emphasis on ground forces rather than on naval and air forces. Such actions could increase the rationalization of NATO defense spending and could also involve offsetting purchases between nations, if necessary. For example, one participant discussed the possibility of joint Dutch-West German equipment procurement that provides for offsetting purchases of items from each country. Such agreements reduce duplication of military production and enhance standardization of equipment.

Barriers

The construction of obstacles and barriers in forward areas in West Germany could delay and disrupt a Warsaw Pact ground offensive. The importance of barriers for NATO defense was emphasized by several participants, including Senator Levin in his closing remarks. Such barriers could buy time for NATO to reinforce its forward forces and strengthen defensive positions. While West Germans have opposed such barriers because they give the appearance of a war state, it was believed that many obstacles, such as lakes to slow a tank advance or barriers that could be raised from ground level when required, should not be offensive to the West German public.

Initial Defenses

Some participants proposed restructuring of the forces required to conduct NATO's initial defense. One participant proposed that European reservists conduct the initial (48-hour) defense against a Warsaw Pact attack. Another suggested that NATO reorganize its forward defense forces to emphasize the use of light infantry units and obstacles and pull back its armored units to act as operational reserves. He emphasized that such a restructuring would affect U.S. as well as European units and should be carried out by all allies in the Central Region. The reorganization should not result in a situation in which the initial defense is left primarily or solely to German reserve forces.

Reserve Forces

Several participants called for increasing the size of European reserve forces. One noted that the West Germans have limited organized ground force reserves and no air reserves. He urged the creation of additional West German combat reserve units. Another stated that the Bundeswehr has 12 reserve brigades, including mechanized brigades equipped with M-48 tanks that are being replaced by Leopard I tanks in the Bundeswehr active forces. The West German reserve units are paired

with active units of the same size and type. Some, however, saw a danger in increasing NATO's reliance on reserves because they would be useless without warning and the political will for mobilization.

Participants differed on the extent to which such reserves would substitute for U.S. troops withdrawn from Europe. One participant called for an increase in European combat reserves to man the equipment of the withdrawn U.S. troops. Another noted that the Europeans would be unlikely to increase their reserves if they believed the United States was abandoning them.

Substituting West German reservists for U.S. troops would be a problem. The decline in West Germany's military-age population (a demographics problem) has led Bonn to increase the length of service for conscripts from 15 to 18 months (after an earlier reduction from 2-1/2 years). This, in turn, has led to a lower flow into the reserves. German reservists, however, would have the advantage of being in place if a war occurred (in contrast to CONUS-based U.S. forces). It was noted that Western Europe's declining demographics will be a problem for the future and that Europe's reservists should be more involved in their continent's defense.

Italian Forces

Some participants recommended the redeployment of Italian divisions to the Central Region. One participant noted that Italian ground forces were unlikely to engage Soviet troops in Italy and questioned the role they could play in NATO defense. Another participant proposed redeploying Italian mountain divisions, which are being deactivated, to southern Germany. This would make West German forces stationed there available for repositioning to strengthen NATO in other areas, for example, the north German plain.

Turkish Forces

Some participants proposed that Turkey, whose troops now face Soviet forces on NATO's Southern Flank, also redeploy units to the Central Region. According to one participant, NATO is not receiving full value from the large Turkish forces. He recommended a German-Turkish agreement under which Germany would train Turkish units and Turkish units would redeploy to strengthen NATO's conventional defense in the Central Region. Another suggested that Turkish military personnel be integrated into U.S. forces in Europe. He noted, for example, that South Koreans comprise one-fourth of the personnel in U.S. divisions there (known as Korean Augmentation to the U.S. Army, or KATUSA). He

proposed forming NATO Augmentation to the U.S. Army, or "NATUSAs," in which up to one-third of U.S. divisions in the Central Region would be manned by Turkish or other European troops.

Political Cohesion

Some participants said that the United States should encourage Western European political cohesion. Increased cooperation by the WEU countries could lead to improved conventional defense. One participant criticized the United States for opposing a united stand by the WEU to avoid pressure by the Europeans. Instead, the WEU should be encouraged to suggest ways for the United States to reduce its military presence in Europe.

Defense Spending

Some participants said that the United States should encourage changes in European defense spending. European countries could get more capability out of static defense budgets by the rationalization of NATO defense spending. However, increased European funding for defense is unlikely. As one participant said, only the prospect of a substantial U.S. troop withdrawal would lead the Europeans to increase their defense spending. He noted that Japan had raised its military funding in the 1970s in response to the Carter administration's consideration of recalling U.S. divisions from South Korea. Another participant agreed that U.S. pressure would be needed before the Europeans would improve their defense programs. Other participants, however, were of the opinion that European military establishments are unlikely to increase funding even under such pressures. In addition, applying such pressure would have negative political results.

Participants agreed that European defense improvements are likely to occur outside the NATO context. Such improvements may occur either unilaterally, through bilateral agreements, or through the WEU. Most agreed that it is difficult to see a NATO role in European defense changes. This was attributed to continued mutual distrust by Western European countries. A participant cited the poor exchange of defense information by NATO members in the Defense Planning Questionnaire as an example. He said that NATO members report only good news in the questionnaire, not problem areas.

Arms Control

Participants differed on the prospects for arms control to enhance conventional defense and on the terms the United States should seek to achieve this result. One said that arms control provides a third option

between continuing the current situation and unilaterally reducing U.S. forces. The United States has a good opportunity for arms control in Europe because the Soviets want to cut their defense spending; however, only asymmetrical reductions would be in the U.S. interest. Otherwise, arms control could hurt NATO's situation, especially without conventional defense improvements.

He further emphasized that the U.S. position on conventional arms control should be hard-nosed. The United States should insist on the destruction of Soviet combat equipment withdrawn from Eastern Europe, not just on its redeployment. The United States should also insist on asymmetrical restrictions on the movements of Soviet category II and III divisions. An arms control agreement should codify the low readiness of these forces and prevent covert Soviet mobilization. Another participant agreed that arms control is needed to undercut Soviet readiness and mobilization capability. He said that the United States should aim for a better result than that achieved in the INF treaty.

The need for Soviet reductions was emphasized because the United States cannot afford to build up to Soviet levels. Arms control could change Soviet force posture and deployments, but negotiations should be between the United States and the Soviet Union, not in the context of large multilateral negotiations. Congressional safeguards were recommended in the event arms control measures do not achieve their objectives. Such safeguards should include the creation and retention of a U.S. industrial mobilization capability, regardless of combat stock levels, to allow for U.S. recovery from an unsatisfactory situation.

One participant agreed that arms control agreements could be valuable for conventional defense but disagreed on the likelihood of achieving what amounts to unilateral restrictions on Soviet forces, as NATO currently intends. In his view, the Soviets will require reductions in troops and equipment and restrictions on movement to apply equally to both sides.

He called for negotiations on parallel measures and verification that would establish a link between NATO and Warsaw Pact conventional capabilities comparable to the link established between U.S. and Soviet strategic and intermediate-range nuclear forces. This would establish a perceived relationship between the opposing forces. As with Soviet forces, any U.S. combat equipment left behind in Europe if U.S. troops withdrew would need to be located in secure storage areas and protected by sensors, with Soviet on-site inspection. There would also be limits on

U.S. and European exercises and equipment movements. U.S. and European commanders would be likely to oppose such restrictions on their freedom of action.

He also said that if the United States wanted such an agreement, it would need to be more aggressive than the Europeans in the current Mutual Balanced Force Reduction negotiations. The Western Europeans are not now very serious about exchanges of information and restrictions on deployments and military activities. If the United States and Western Europeans could overcome these problems, arms control could provide stability at lower cost.

Implications of the INF Treaty

Participants differed on the implications of the INF treaty on European attitudes towards conventional defense. One participant said that the treaty did not affect the West Europeans at all. They will not spend more or less on defense because of it. Another participant agreed that the treaty would not lead to increased European defense spending, but he said that it had done more than any other single event in the last 40 years to arouse European concerns and to make Western European political leaders see the need to do more for their own defense and to improve their conventional capability within stable defense budgets. He said that during the INF negotiation process, the United States had alienated many Europeans and had led them to see that Europe has separate defense interests from those of the United States.

Several participants saw arms control as a means of increasing warning time by restricting Warsaw Pact mobilization. Arms control measures, either reciprocal unilateral actions or agreements, could reduce Soviet forces opposite the Central Region and restrict the readiness of Soviet reserves, including category II and III divisions. Existing agreements and U.S. intelligence could detect Soviet mobilization of these divisions, and new negotiations could lead to more observation of Soviet mobilization.

Arms control measures to increase the warning time could eliminate the threat of a Warsaw Pact short-warning attack, including short warning after a long covert mobilization. The availability of strategic warning could increase NATO's reliance on reserves, but it would be easier for the Warsaw Pact than for NATO to mobilize its reserve forces. Lower readiness could lead to improved crisis stability and greater sustainability because it would permit greater reliance on mobilization of the U.S. industrial base.

It was recommended that arms control steps to control the Soviet reserve system include confidence-building measures, such as on-site inspection, limits on exercises and other out-of-garrison movements, and cooperative measures for monitoring (such as secured storage of reserve unit equipment).

Reductions in Offensive Weapons

One participant proposed a mutual withdrawal of offensive weapon systems (Soviet tanks and U.S. combat aircraft) and an emphasis on defensive systems such as antitank weapons and barriers. He proposed, for example, that the United States dismantle 300 F-111s and in exchange that the Soviets dismantle 20,000 older-model tanks. The United States would remove the wings from the F-111s and store them in the southwestern United States. The Soviets would remove the treads from the tanks and store them beyond the Urals. This could be accomplished by reciprocal actions without a formal arms control agreement.

Troop Reductions

Several participants proposed that any reduction of U.S. troops from Europe occur as part of an arms control agreement. One participant said that there should be a direct link between U.S. and Soviet troop levels on a worldwide basis. The United States should not withdraw troops from Europe unless the Soviets also withdraw. Another tied U.S. troop reductions to a greater emphasis on reserve forces by both NATO and the Warsaw Pact and to limits on reserve mobilization.

One participant said that the Soviets should reduce their forces to the point that the Western Europeans would no longer see them as a threat. Such asymmetrical Soviet troop reductions are necessary to permit the withdrawal of U.S. forces. He proposed the withdrawal of Soviet Operational Maneuver Groups and prepositioned equipment from Eastern Europe, saying that the Soviets do not need these forces to control the other Warsaw Pact countries. The withdrawal of these forces and equipment from the forward area would reduce the threat of a Warsaw Pact short-warning attack. A NATO shift to greater emphasis on reserve forces would be safer in the context of an arms control agreement that removed large numbers of mobile Soviet forces close to the inner-German border.

Soviet Negotiating Positions

Participants disagreed on the value of estimating Soviet positions in talks on conventional force reductions and restraints. Two participants said that NATO would need to agree on a response if, for example, the

Soviets proposed to eliminate 20 category III divisions. One possibility might be to reduce French reserve divisions, but it was doubtful that the French would agree to such reductions. Reaching agreement on a negotiating position within NATO is difficult because of the need for unanimity among many countries.

One participant said that while the Soviets have their own ideas about what they want from the negotiations, they are asking the United States for ideas, especially on confidence-building measures such as restrictions on troop movements. He attributed this request to a lack of cooperation by the Soviet military with Soviet Foreign Ministry officials.

He also stated that the Soviets probably would have two objectives in such talks: (1) to avoid modernizing their forces to match U.S. and NATO modernization and (2) to avoid a balance of forces in Central Europe where, if the East Germans changed sides, the Soviets might lose. He said that, when they look at the Warsaw Pact balance, the Soviets want to have superiority over the combined West German and East German forces. If they have this, they are content. If not, they are very concerned about their security.

Concluding Remarks

Senator Carl M. Levin stressed Congress' need for objective and balanced views of NATO's conventional strengths and weaknesses. He said there is a shortage of such assessments of the conventional balance, despite their importance for budgetary and arms control issues.

Senator Levin said that some estimates of the balance portray an overwhelming conventional superiority by Warsaw Pact forces and lead to the conclusion that a robust NATO conventional defense is hopeless. If that conclusion is valid, attempting to find a few billion dollars to improve conventional capabilities is pointless. In that case, NATO might as well have a "tripwire" defense (Senator Nunn's phrase) and threaten nuclear retaliation in the event of a Warsaw Pact offensive. The U.S. military presence in Europe could then be reduced from 325,000 to 25,000 troops.

Senator Levin said he believes that a robust NATO conventional defense is not only possible and feasible but required if NATO is to reduce its reliance on nuclear weapons. He said that nuclear weapons provide an excellent deterrent, but the first failure of that deterrent would produce unprecedented damage. He said that NATO has a moral obligation to its

population to raise the nuclear threshold by providing an adequate conventional defense. He affirmed that conventional improvements would require difficult fiscal and political decisions, ones that politicians try to avoid.

Like Representative Bennett, Senator Levin criticized the parochial interests of NATO countries, including the United States, that led to duplications and lack of interoperability. He blamed this situation on an underlying assumption that conventional force improvements made little difference in the face of a massive Soviet superiority in conventional capabilities.

In conclusion, Senator Levin stressed that NATO's conventional shortfalls are the result of U.S. and allied actions. He cited former U.S. Ambassador to NATO David Abshire's description of "self-created vulnerabilities." He said that a more objective assessment of the NATO-Warsaw Pact conventional balance will increase the recognition that conventional defense improvements are not hopeless and that NATO's self-created vulnerabilities can be corrected.

Senator Levin expressed particular support for the creation of barriers in West Germany across potential Warsaw Pact axes of advance. He estimated that such barriers could provide an additional 2 to 3 days' time for NATO defenses—an important period in light of estimates of the limited duration of NATO's conventional defense. He said that the United States should persuade West German leaders of the importance of establishing such barriers.

In closing the workshop, Mr. Bowsher noted that the United States spends $1 trillion every 3 or 4 years on defense and has powerful allies in NATO. With these resources, NATO should be able to put together a credible conventional defense.

Experts' Views of the Soviet Perspective of the NATO-Warsaw Pact Conventional Force Balance

Probably the most important difference between the Soviet and NATO assessments of the conventional balance is the thoroughness and seriousness with which the Soviets attempt to evaluate force balances in a strategic-operational context, that is, in the context of various military operations in which opposing forces would actually engage in the event of war. Numbers are important in Soviet assessments of the military balance, but they are not derived as simple "bean counts." More important to Soviet military planners is calculating the sufficiency of forces to execute strategic missions in order to achieve strategic objectives relative to enemy forces. Consequently, Soviet assessments of the balance encompass a range of difficult-to-quantify factors such as surprise, morale, troop training, and command experience, as well as comparisons of weapons and equipment, all within an operational context.

The basis of these Soviet balance assessments is a "scientific" framework for the study of war that has evolved in the Soviet Union over the last 6 decades and that does not exist in the West. It is "scientific" not because of the devices of science, but because of the philosophy of science that there are underlying relationships that govern processes and that these relationships can be characterized and become the basis for prescriptive decision-making. The basis for this study of war is

- a careful collection of data from previous battlefields;
- an expert evaluation of that data (analysis of operational experience);
- a constant update of that data by operational experiment and testing (operational analysis and research);
- a reduction of that data to a modern, standardized series of calculations and norms on the basis of which future battles are planned; and
- the standardized application of this approach by way of regulations (determining tactics, drills, and battlefield calculations) and the enforcement of rigorous training in their use.

Soviet assessments of the balance are therefore not derivative of the forces; they are the essence of Soviet military planning, or what military planning is basically trying to control and manipulate. In the words of one participant: "That is a different reference point from what we have in the West, not because someone in the Soviet Union made a decision to put the balance first, but it is simply how they look at the world and the military part of the world."

Through this process, Soviet planners devise an elaborate set of calculations that attempts to encompass all aspects of a potential war to determine the "correlation of forces," that is, the relative strength of each

side at any given time. Soviet balance assessments take into account and quantify not only the quantity and quality of forces and equipment, but whole systems, or "building blocks" of warfare, and all of the underlying principles and variables that affect the way a war would be fought—such as surprise, rates of advance, maneuver capability, "maskirovka" (the combination of concealment and deception), the ability to concentrate forces at decisive places and times, sustainability, the nature of the opponent, weather, and terrain.

In this way, Soviet planners calculate forces and equipment—of both the Warsaw Pact and the opponent—in a broad context, focusing on how much the forces and equipment support the principles of warfare. They examine, for example, what the contribution of any given weapon system is to moving a force at a certain rate of advance and assign numbers based on the nationality of the weapon's crews, whether a commander is effective, the achievement of surprise, the type of action (offense or defense), and comparable measurements they assign to the opponent's forces.

The key organizational mechanism for making these assessments is the central military organization, the Soviet General Staff. The General Staff is a centralized planning body that conducts operational and strategic planning for Soviet armed forces as a whole. It is comprised of military personnel who look at the different elements of the battle in the conventional balance and trade resources, weapons, and money from one service to the other without necessarily having particular allegiance to any one service.

All of these calculations are dynamic, constantly leading to changes in the organizational structure of Soviet forces to accommodate any changes in equipment, training, or identification of new enemy tactics. Workshop participants stressed that there is no such a thing as a final and definitive table of organization and equipment for a Soviet formation and never has been. The introduction of every new weapons system, a change in the quality of the soldiers' training, or the identification of a new enemy tactic will demand some restructuring of the force to achieve an ideal mix to maximize combat power. The organizational structure is in a constant state of change, striving for improvement.

One participant cautioned that the Soviets "are not 10 feet tall in this" and that they, like us, "lack a good number of answers." But participants agreed that the Soviets take this kind of analysis more seriously

than NATO does and believe that their battle norms and statistics are sophisticated, complex, and effective.

Soviet Assessment of the Conventional Balance in Europe

The Soviets' assessment process highlights the key difference between NATO and Soviet approaches to estimating the conventional balance in Europe. Participants agreed that planners in the West tend to judge the balance of forces in terms of inventories of weapons or various force packages deployed against opposing force packages in the context of a very limited number of scenarios; the models and games used in the West to test force requirements tend not to give adequate consideration to how forces would actually fight at various levels of warfare. The Soviets, by contrast, make the forecasting of variants of future operations, and of warfare in general, the basis of their military doctrine. One participant described it as follows:

"The Soviets look at a region and ask: Is war going to occur here? Who would be the likely opponents? Who would be the opposing coalition? What would be the military potential of that coalition? How would they probably defend? What would be our objectives in this region? Where are they and how would we group them?...How much force would it take to get to them? We'll call those strategic directions—and when we see enough emerge as a strategic direction and control process it would take to effect a success in that area, we'll call it a TVD [Theater of Military Strategic Actions][1] ...Then they look at how the war might go in that area under various scenarios, and again they measure the correlation in absolute terms: how many tanks, how much artillery, how many airplanes? They add a qualitative idea of what the airplane, or whatever, is really worth. Then they consider the opposing forces and the nationality of the person behind the gun (which has a multiplier or divisor effect on the utility of the gun)...If you achieve surprise, it doubles the effectiveness of your forces. If you have a good commander, it can double the effectiveness of your forces. If you have a rotten staff, you can cut it in half, or worse."

As imperfect as these kinds of assessments may be, in trying to understand in a given region how much is enough, the Soviets are using a rich set of scenarios regarding how a war might start and how it might be fought.

The Soviets, for example, look at a much wider range of scenarios in terms of how a war might start. The Western expectation of an outbreak

[1]For planning purposes, the Soviets have divided the areas contiguous to their borders into five continental theaters of strategic military actions (teatr voennykh deistv, or TVD)—the Northwest, the Western, the Southwestern, the Southern, and the Far Eastern—in which they would expect military action on a strategic scale. The military assets employed in each TVD vary, but the strongest force is considered to be in the Western TVD. The Soviet Union itself is divided into 16 military districts for administration, training, and mobilization.

scenario is typically one in which the Soviets launch a sudden attack, or "one in which we have a kind of crisis and then the sneaky Soviets just launch one on us. It's sort of a conventional version of the old bolt from the blue." The worst-case scenario for the Soviets is a NATO attack.

But most disturbing—and perhaps most likely—is a situation in which the outbreak of war is less deliberate and thus less predictable than sudden attack by one side or the other. Under those conditions, Soviet scenarios range from an attack because at some early point they decide it would be to their advantage, to a defense of some length, for which they actually have to husband their resources, cover their own mobilization, and then initiate a strategic counterattack on a scale of something like Stalingrad. As one participant put it:

"We have a crisis, as in World War I, where they begin to be mobilized, we begin to mobilize, we make a gesture, they make a gesture, and ultimately it comes down to a political decision of whether or not to let the military decide on what point we have optimum time in which to attack and exploit the benefits of surprise or actually suffer from the enemy launching surprise at some level...A partially mobilized situation—that is probably the ugliest and also the most likely and most confusing condition under which war would probably break out..."

Soviet literature suggests that the Soviet Union is examining increasingly messy scenarios regarding how a war might start.

Likewise, Soviet planners are assessing a range of scenarios by which a war might be fought. Most assessments give the Soviets a 2 to 1 or 2.5 to 1 force advantage in Europe—even with reinforcement by both sides. Although the Soviets never present their own ratios or calculations (instead, they generally cite force ratios from the International Institute of Strategic Studies), they probably believe that they have an approximate ratio of 2 to 1 in place, and possibly less, given the Soviets' tendency to exaggerate the value of NATO's forces and make a rather conservative estimate of the value of their own forces.

Should a war begin, however, the Soviets do not believe that they must have overwhelming superiority across the theater to achieve strategic objectives; in fact, their writings suggest that they could achieve victory with a much smaller force advantage than they have today. Instead, the Soviets believe that the key to victory would be the ability to mass sufficient forces at decisive places and times to achieve penetration. They believe that they would need to achieve roughly 4-5 to 1 on selected sectors but that the ratio across the theater would not have to be high.

Considering present force ratios, the Soviets have examined a number of different scenarios and options to achieve victory. One option that currently appears to be preeminent as the most effective and productive type of operation in a future war against NATO is described as a large-scale operational-strategic encirclement of large groupings of NATO forces. As described in Soviet writings, this operation would include plans for offensive penetration of NATO's defense in a few relatively narrow sectors, followed by encirclement of large groupings of NATO forces and rapid seizure of key objectives in Western Europe. Warsaw Pact forces would attack and disrupt enemy forces where they are weakest—in their flanks and in the rear. The operation is very complex and requires concentration of considerable forces and fires on those axes destined to be the arms of the encirclement's embrace.

While it is true that successful encirclement operations require considerable forces with excellent mobility, the Soviets believe that the operation makes the most efficient use of attacking forces that lack the numerical superiority to attack successfully in any other way. In some very large sectors, the Soviets would not mount a full-scale operational attack but would only attempt to fix forces with attacks on a tactical scale. Depending on the extent of mobilization by both sides, the Soviets might even defend in some sectors to make forces available for the main attack.[2]

Thus, one of the most significant advantages, in Soviet eyes, of the application of Soviet methodology in terms of the force balance is how low the Soviets' force advantage could be to achieve victory. Soviet military historians and military scientists have concluded that a 1.5 to 1 force advantage—and even parity—across the entire theater is sufficient to enable Soviet forces to achieve a 3-4 to 1 force advantage on a few (two to four) fronts or army breakthrough sectors 20 to 40 kilometers in width and advantages of 4-8 to 1 at the tactical point of penetration. Indeed, the Soviets continually cite extremes in their own history when such operations were successfully undertaken with very low force levels. In one operation, the Red Army massed the equivalent of six divisions on a main attack sector 10 kilometers wide and over the remainder of the front left one battalion per 10 kilometers to defend secondary sectors. Soviet authors repeatedly cite the successful encirclement of

[2]While most Western defense analysts are familiar with the concept of massing forces and fires in selected attack sectors, few have considered the total organizational and operational context within which forces are massed. Massing normally involves a redistribution of available forces from inactive or less important sectors to the main attack sectors, but little serious research has been done in the West to determine how few forces are required in non-main-attack sectors.

Paulus' Sixth Army west of Stalingrad as an example of how properly executed encirclement operations can enable an attacker with forces only equal to those of the defender to defeat and destroy him.

In the words of one participant, "Soviet enthusiasm for the benefits of this approach to offsetting marginal to nonexistent force advantages on a theater scale is disturbing." Encirclement is viewed as one means of compensating for lack of numerical superiority. Soviet writers even cite examples such as the Moscow counteroffensive, during which the overall correlation of forces was negative (1 to 1.5) but victory was achieved through redistribution of forces to the flanks of the opposing Nazi grouping. To protect massed forces from enemy air strikes, the Soviets massed air (sometimes 100 percent of the air available) and up to two-thirds of available ground-based air defenses in the sector of the main attack.

Equally important in the Soviet assessment is the density of forces. As the force density declines, the gross correlation of forces required to achieve victory declines more rapidly. In other words, for the Warsaw Pact to achieve victory now, they would need a ratio of 1.5 to 1 with certain divisional frontages. If the divisional frontages were to increase because the divisions were reduced on both sides, the Soviets might be able to achieve victory with a 1.2 to 1 ratio. Indeed, one recent Soviet article stated that a 25-percent force reduction at the tactical level would improve the force-to-space situation in such a way that the attacker would be favored.

Air superiority, however, would be very important to the success of the operation. As Soviet Army General P. Lashchenko recently suggested, encirclement under conditions in which the enemy has air superiority would be seriously threatened, perhaps even impossible.[1] In the words of one participant, "air sufficiency to launch an encirclement operation seems to be roughly 2 to 1, although it is much more complex in trying to mass air effectively and maintain superiority over a given sector.... If air fails, the whole operation will fail because the whole operation becomes vulnerable to forces that can be massed quickly against you." In concluding his article, General Lashchenko underlined the need to improve

[1]See General of the Army P. Lashchenko, "Sovershenstvovaniye sposobov okruzheniya i unichtozheniya krupnykh gruppirovok protivnika po opytu velikoy otechestvennoy voyny" ("Perfection of Methods of Encirclement and Destruction of Large Enemy Groupings Based on the Experience of the Great Patriotic War"), Voyenno-istoricheskiy zhurnal (Military Historical Journal), 1984, p. 31.

command and control and use of "mobile troops," aviation, and airborne/air assault forces in carrying out large-scale encirclements "in a future war."[1]

Also key to any Soviet operation would be what are generally considered to be the basic principles of Soviet military planning. The Soviets do not want to see a war of any kind in Europe and do not at this moment intend to start one. They prefer to resolve political objectives by political means and regard war only as a last resort.

If war did occur for any reason, however, one Soviet fundamental principle would be to keep the conflict conventional and avoid an escalation to nuclear weapons. This is because nuclear weapons are the only NATO weapons that can threaten Soviet territory. At the operational level of warfare, this is also the case because nuclear weapons introduce uncertainties that the Soviets believe would confuse the battlefield, slow the rate of advance of Warsaw Pact forces, and greatly disrupt troop control and fairly well-defined operational plans. In planning for war, however, the Soviets plan for both possibilities—that is, for scenarios in which only conventional weapons are used and scenarios in which both conventional and nuclear weapons are used.

Likewise, the Soviets would aim to win quickly. This is because with a long war the correlation of forces would shift to NATO's favor as NATO gained time to bring its strategic resources to bear. The Soviet Union prepares, however, for a war lasting up to one year.[2] Indeed, in the words of one participant: "We consistently overestimate the capacity of their ready forces and consistently gloss over or undervalue the ability of the Soviet Union to mobilize forces for a long war."

In order to win quickly, the Soviets emphasize speed and surprise. This does not mean total surprise, or even military surprise (such as an ambush, as we often think of it), but rather "political," or effective, surprise—that is, catching off guard those NATO leaders who make the decisions to mobilize, prepare defenses, or release nuclear weapons. Surprise, while crucial, is a complex consideration. Technological systems today may well provide NATO with adequate warning of a Warsaw

[1]Lashchenko, p. 31.

[2]The Soviets have always prepared for a long war and have tried to deter the West from moving in that direction. But whereas a few years ago the Soviets believed that if a war were not finished quickly it would develop into a nuclear exchange, now they believe that it could develop into a longer period of conventional war, for which, in their view, they are reasonably well prepared.

Pact attack, but surprise would come if NATO's leadership did not heed that warning. The effects of surprise are achieved when a force confronts its opponent with a circumstance and superiority for which the opponent is not prepared at the time it is presented.[a]

A high rate of advance would also be important to limit casualties and the duration of the conflict. To conserve forces and thereby help to ensure success in the long term, the Soviets believe they must either defend or attack at a high rate of advance (at least 40 kilometers per day). A slow advance provides the defender the chance to make new lines of defense repeatedly and inflict high losses on the attacker, who must repeatedly make costly breakthrough operations. All of these become more important the closer the correlation of forces, in their minds, comes to parity.

Finally, winning is an ambiguous concept in Soviet military planning. It essentially means setting and achieving the Soviet political objective that the war was started for before war escalates to the point of nuclear destruction of the Soviet Union. But objectives can be adjusted based on what is possible. The commonly held Western attitude that the Soviets have an absolute definition of their objectives and of victory is flawed. Victory can be based on more modest objectives and risks at the time war occurs.

All of these principles are central to Soviet assessments of the balance and Soviet military planning and are an integral part of Soviet calculations of the correlation of forces.

Relative Quality of Forces

It is within this operational context that the Soviets assess the relative quality of NATO and Warsaw Pact equipment and personnel and the general quality of forces. Despite the clear technological superiority of NATO's industrial infrastructure, the Soviets see today's balance in the quality of Warsaw Pact versus NATO forces as adequate but fragile, a balance that may not be sustained for a long time due to the potential of NATO to deploy technologically advanced systems. The Soviets have this view because they compare whole systems, encompassing the way

[a]Today, Soviet military theoreticians believe that achieving strategic surprise is increasingly improbable but that, for a variety of reasons, surprise at the tactical and operational levels—i.e., the appearance of forces or munitions at unexpected locations and unanticipated times—is becoming increasingly probable. One participant underlined that while both the Soviet Union and NATO are afraid of a surprise attack, they have different fears about what surprise involves: the Soviets are only afraid of a Western surprise nuclear attack, whereas the West is afraid of a conventional attack.

equipment and personnel will be used rather than comparing strictly equipment and manpower. In the words of one participant:

"It is a mistake in attempting to do such an overall assessment to compare radios or trucks or guns or ships or airplanes or jet engines...what you have to do is look at all the systems that affect the land battle, the air battle, or the sea battle...It's not just who has got better airplanes. The simple answer is we do. But we may not have better systems to affect the air battle."

This is not to say that the Soviets are totally sanguine about the relative quality of forces. Soviet planners are aware that these systems, when tested under conditions more demanding than peacetime exercises, do not always measure up to their impressive theoretical potential. The Soviet performance in Afghanistan—even allowing for the unusual conditions associated with that theater—highlighted the Soviets' difficulty in adjusting and modifying what seemed to be well-founded approaches to military problems. But the Soviets view their approach itself as a significant advantage in identifying their own strengths and weaknesses and those of NATO and are attempting to address them through arms control with the West and Warsaw Pact force development at home.

Equipment and Technology

Despite the poorer overall economic performance and technological base of the Soviet Union and the Soviets' technological lag behind the West, Soviet planners believe they can produce weapon systems to minimize that disadvantage and often in less time and at less cost than NATO. Soviet strengths tend to lie in combining simple, even inferior, technologies into "systems of systems" that are adequate to fulfill the mission for which they are designed. Soviet systems include, in a very important sense, the design of the operations in which weapons and forces are to be employed. This makes it possible for strategy and operations, or "military art," to offset technological inadequacies. In the words of one participant:

"The Soviets are very good systems engineers. They take suboptimum technology and equipment and put it together effectively to solve a problem. We are often surprised at their ability to integrate these systems of systems in an operational scheme that offsets their technological inferiority."

The Warsaw Pact's ability to offset technological inadequacies by combining simple technologies into "systems of systems" was also illustrated in a lecture by a Polish expert on the conventional balance.

Taking into account a wide range of factors, such as quality of personnel, quality of equipment, and ground control, the Polish expert calculated that the ratio of effectiveness of NATO to Warsaw Pact aircraft was 5 to 1 but that the overall balance is maintained by the Warsaw Pact's superiority in antiaircraft systems.

On the whole, in the area of tanks, artillery, and trucks, the Soviets believe their equipment is easier to use and more reliable than that of NATO. In areas such as aircraft and missiles, however, where technology may be a more discriminating factor, Soviet confidence drops off dramatically. But the Soviets also believe they can use operational-strategic concepts to exploit their advantages and counter NATO technological advantages.

Indeed, as recently as one year ago, the Soviet military press was consistently inveighing, "almost hysterically, at times," against NATO's technological progress. While NATO's technological progress provokes a genuine fear and the invectives against it continue, "what was previously a really hysterical fear about Western advanced technology has become considerably muted."

Some participants suggested that the Soviets' fear has abated as a result of more moderate assessments of what the West will be able to do in the next 10 to 15 years to introduce new weaponry in meaningful quantities. In the words of one participant, "the Soviets are illustrating a much more realistic assessment of NATO, that NATO isn't actually so formidable." Others noted that the Soviets are observing and writing about the decline in the level of U.S. military investment and the change in the overall political atmosphere between East and West. The toned-down stridency in Soviet appraisals of Western military technology therefore may instead be an indication of the Soviets' effort to influence the continuation of those tendencies in the West rather than an indication that their fear has abated.

In the mid- and long-term perspectives, however, the Soviets are concerned about Western technology. Soviet discussions suggest that present and future Western advances in technology—emerging technologies, robots, and the introduction of unmanned systems—will make Soviet successes less likely than before. For example, speed of operations can be reduced, surprise becomes less certain, attrition rates become higher, and defensive operations may remain incomplete.

Soviet writings suggest that in the long term (roughly beyond 2005), the Soviets are particularly concerned about technology "based on new physical principles" that will threaten the Soviet homeland with non-nuclear munitions. These include all kinds of potential "science fiction" weapons, such as particle beam weapons, plasma weapons, and space-based systems. The Soviets are particularly concerned that NATO's development of advanced weaponry will make the Soviet investment in armor obsolete and that NATO will be able to develop and deploy these weapons while the Soviets will be without them. The Soviets believe that in the long term, the West has a greater capability to create and produce these kinds of systems in adequate numbers than they do, and they are pessimistic about their ability to compete.

Quality of Personnel

Soviet planners view the quality of NATO and Warsaw Pact personnel within a broad strategic-operational context, but this area represents a less known (and perhaps unknowable) factor in the balance. Clearly, personnel problems exist and are acknowledged by the Soviet military. But again, Soviet planners believe that their "systems approach," or the organization and underlying philosophy behind personnel training and management in the Warsaw Pact armed forces, can likewise offset some of the apparent Warsaw Pact disadvantages in personnel quality relative to NATO. They also see significant differences in personnel quality among NATO corps that could be exploited in a potential Warsaw Pact offensive.

For example, the Soviet approach to training is designed to use their conscript military in what they believe is the most effective manner. Warsaw Pact training restricts what is required of a combat soldier and ensures that his equipment is designed to be operated simply, so that conscripts called from the reserve within 5 years of demobilization will be capable of acting efficiently. In the words of one participant:

> "A Soviet tank driver/mechanic will do no other job for 2 years as a conscript. Certainly, he will not be versatile, but he will never forget how to drive a tank and, once having learned on a T-62, he will be perfectly capable of driving a T-64 if required to do so. Will a tank driver in a regular NATO army, who has just done a 2-year tour as a company clerk, be any better at driving a tank if war breaks out than a Soviet reservist recalled to the colors? Probably not. Yet the cost of the regular soldier is very much greater than that of the conscript."

Likewise, the Soviet force structure is also well-designed for mobilization and demobilization, that is, to provide very large and powerful

forces relatively quickly.[7] While the bulk of Warsaw Pact forces are maintained at 15- to 30-percent strength, with most of their equipment in storage, these formations have their full complement of command staffs and in war need only their conscripts and some platoon commanders and technical officers to come up to fighting strength. Warsaw Pact cadre have an almost full, permanent complement of regular officers who have had a long period of military training and who, along with noncommissioned officers, conduct technical maintenance of equipment. Soviet officers receive more training in highly specialized academies and rotate on longer cycles (4 to 9 years) than NATO officers (who rotate every 2 to 3 years). In this way, the Warsaw Pact armed forces can field and maintain equipment without relying on conscripts to conduct complex maintenance procedures at the organizational level. The Warsaw Pact can mobilize their reserve formations for war in about 3 weeks. In Soviet eyes, NATO usually overstates the capacity of Warsaw Pact ready forces but consistently understates the Warsaw Pact's ability to mobilize what we call "reserves."

At the same time, however, Soviet writings identify a number of qualitative shortcomings in Warsaw Pact personnel training, readiness, and performance. Some of these shortcomings have been recognized and discussed by Soviet authors for years, but their real potential for affecting the conduct of military operations was given new weight by the performance of conscript and reserve personnel in Afghanistan.

Chief among these is the Soviets' concern about the inadequate technical skills of their personnel relative to the West. This concern has been reflected throughout the Soviet military press and in Defense Minister General Yazov's statements that the Soviets need to create a military expert of a different type in the shortest possible time.

In addition, the Soviets have a number of other personnel concerns. Although Soviet training suggests that mobilized Soviet reservists would handle equipment well, for several years Soviet conscripts and reservists in Afghanistan experienced problems in fielding basic equipment (although one should be cautious about drawing conclusions based too heavily on this experience). The Soviet press has revealed a good deal of bullying in the training process, creating tension among first and second

[7]Only a fraction of Soviet formations are kept ready (i.e., with 75 percent manning and 100 percent of equipment). A few are kept with all their equipment and are half manned. The bulk are maintained at 15- to 30-percent strength with most of their equipment in storage.

year draftees and conscripts and officers. Soviet planners are also concerned about the cohesion of their own and East European Warsaw Pact nationality groups. While the evidence to date suggests that the Soviets have carefully selected forces for operational purposes and have used different nationalities selectively, the Soviet press has evidenced potentially severe language problems in the Soviet Union's own armed forces and ethnic and nationality tensions within the ranks. Cohesion of units was a problem in Afghanistan, and shortfalls in personnel performance seemed to be largely responsible for shortcomings in the Soviet rear service, or logistic support system.

Indeed, Soviet dissatisfaction with the training and performance of military personnel may be reflected in the large number of changes that have taken place in the past year in positions at the highest levels dealing with personnel issues.[8] These changes seem to have gained momentum over the past year, indicating a clear Soviet effort to identify competent people, particularly those who served in Afghanistan and distinguished themselves in some way, and disseminate them more widely throughout the force structure. In addition, the Soviet press has continued to single out (as it has for many years) various shortcomings in officer selection, active duty and premilitary training, and the military educational system. While many of these shortcomings have been recognized and discussed by Soviet authors for some time, the experience in Afghanistan and the concerns over future technologies have given these problems new weight.

Some participants suggested that Soviet planners might have determined that even more substantial changes are required in selecting, training, and educating officers and key personnel. While personnel changes and other developments indicate that the process has already begun, it would seem to be particularly important to improve training approaches for reservists and conscripts, who would play such a critical role in the mobilized armed forces and whose performance in Afghanistan left something to be desired. Again, "perestroika" (restructuring) is viewed as an attempt to change the correlation of forces in this area.

[8]For example, the former Commander in Chief of Airborne Troops recently became the new Deputy Minister of Defense for Cadres charged with officer selection and assignment in training; the former Deputy Commander of Airborne Troops became the new Deputy Defense Minister heading the Main Inspectorate. Aside from being a final posting for Soviet general officers, the Main Inspectorate is an important directorate for overseeing training and combat readiness. There are other examples at lower levels of apparent Soviet efforts to reinvigorate personnel training, readiness, and performance through the assignment of personnel who embody the qualities exhibited most prominently by airborne troops, combat engineers, and aviators, where such individuals have been assigned to units, formations, and military educational institutions.

With regard to NATO personnel, the Soviets have identified what they believe are serious weaknesses. While U.S. personnel rank among NATO's best, for example, a recent assessment published by the Soviet Institute of the United States and Canada asserts that U.S. forces are not prepared to fight an offensive campaign in Europe, despite their superiority in technical qualifications.[9] Regarding NATO and Warsaw Pact personnel overall, when the Soviets compare variables such as readiness, morale, and psychological preparedness, they seem to arrive at a more even balance.

The Soviets have also identified sharp differences among NATO forces, both in personnel and overall combat capability. According to Warsaw Pact calculations acquired by one participant, for example, British manpower is assessed to be roughly 1.6 times more effective than Soviet manpower, German personnel have an approximate 1.3 to 1 advantage, and U.S. military personnel are roughly at parity. Overall, the Soviets consider the U.S. and German corps to have the greatest combat capability, with the U.S. corps and the German II and III corps assigned to perhaps the best defensive terrain in the NATO Central Region; the Dutch and possibly the Belgian corps are considered as having the least combat capability, and the British and French corps' combat potential fall somewhere in between. (The Belgian corps, for example, is assigned roughly half the strength of an equivalent U.S. or German corps.)

Given Soviet perceptions of the relative quality of NATO divisions and the fact that they would aim to achieve surprise and have the initiative, the Soviets would likely exploit these differences in any offensive. Participants agreed that the Warsaw Pact's strongest formations would likely be arrayed against NATO's weakest formations, so that it would be the weaker NATO corps that would probably bear the brunt of any Warsaw Pact attack.

Likewise, the Soviets view NATO's operational command structure as NATO's greatest deficiency relative to the Warsaw Pact. The Soviet commander, for example, is taught to think on an operational level. He possesses what the Soviets believe is an effective means of measuring the combat capability of his force by testing it and comparing its performance (both on the individual and the sub-unit levels) to a standardized and established set of norms. The Soviets believe that this allows the commander—by reaching a kind of "mathematical" value of his forces—to determine with reasonable accuracy what his troops can do,

[9]Arbatov, "Soldat v armii S. Sh. A." ("The Soldier in the Army of the USA"), S. Sh. A., no. 5, 1987.

and, at the highest level, to assess the competence of his Pact allies. He can then complete the equations that he has available to determine the relative strength of the enemy and thus calculate the likely outcome and casualties of any engagement. Participants underscored that this exercise is not the preserve of war games or scientists in the Soviet Army but is an operational function and the responsibility of a commander and his chief of staff at every level.

There is little training for operational commanders in NATO, in marked contrast to the Soviet Union, and little opportunity to exercise operational command, even in war games. NATO has no such system of evaluation, and NATO commanders in general must assess their force by "feel," intuition, and experience. "While these are all very valuable qualities," one participant said, "their value depends on the ability of the commander." In Soviet eyes, this "educated guesswork" is a poor substitute for calculations.

In sum, the Soviets believe that a good part of their disadvantage in military personnel may be offset by their superiority in how that personnel is used. The Soviets believe that they have an advantage over NATO primarily in executing large-scale operations but that NATO has an advantage over them in small-unit proficiency. The Soviets see NATO's greatest deficiency in its lack of any central operational command.

One participant cited an analogy with a chess game to illustrate the different philosophies, and thus strengths and weaknesses of the quality of military manpower in the two alliances. If one thinks of a chess game from a Soviet point of view, NATO lacks an operational concept; lacking operational authority in Europe is like a chess board on which NATO has given all its players initiative, good equipment, and training. On the Soviet side, Soviet planners have limited the level of initiative, equipment, and training, but they have invested large sums of money in training grand masters to play chess.

Operational Employment of Forces

Ultimately, the Soviets see the real advantage of the Warsaw Pact in the operational quality of forces, that is, the ability to wage war. The Soviets believe they have three advantages:

- The Warsaw Pact has a cohesive, consistent doctrine of war that is reflected in the way the coalition is organized for war, the way it designs its economic assets and forces, the way it uses civilian assets and trains

people, and the way whole nations are organized for war. The Soviets would say that NATO has no doctrine for war.

- The Warsaw Pact is under absolute Soviet control even though it is a coalition. The Soviets use Czechoslovakian, Polish, and East German divisions as they see fit. There would be no independent national decision on the application and use of armies and Fronts; centralized control from a single political source and single philosophy is decisive.
- The Soviets are trained to conceptualize the operational level of the war; that is, Soviet generals are taught to handle army groups and armies and to envelop and maneuver forces.

These are significant advantages for the Soviets, even with some gap between theory and practice. However, one participant noted that the Soviets now view NATO, or the United States, as beginning to address the operational level of war in developments such as NATO's Follow-on Forces Attack Concept and AirLand battle. This presents a problem for the Soviets in grappling with resulting problems such as protecting their second echelon and assembly departure areas.

NATO and Warsaw Pact Strengths and Weaknesses

In light of their assessments, Soviet planners believe that the Warsaw Pact air forces represent an area of weakness compared to NATO, which is particularly strong in air power. Even though the Warsaw Pact enjoys numerical superiority in the air, it credits NATO with superiority in airframes and weapons technology and expects NATO pilots to be relatively more effective than its own. It also appears to credit NATO with effective air defenses because of modernized launchers and responsive automated fusion and dissemination of targeting data.

The Soviet assessment of NATO's reliance on air power to provide operational impact across corps boundaries is interesting in view of Soviet arms control proposals to cut NATO air power. It is NATO's reliance on air power, too, that has resulted in the Soviet development of the air operation as the first stage of a conventional assault, to destroy NATO air forces and command and control assets on the ground in the first hours of a war. NATO's reliance on runways and a few repair facilities adds, in Soviet eyes, to the vulnerability of NATO air power to a prescriptive decapitating strike.

Another area of NATO comparative advantage, as the Soviets see it, lies in naval or amphibious forces. Although opportunities are limited for navies in the European theater, they give NATO the option of long war

sustainability; that is, they provide an option other than rapid capitulation or nuclear strike. The Soviets have noted the NATO navies' conventional capabilities for projecting power, for example, the Tomahawk long-range cruise missiles; but these are only one of many sources of power that they believe the NATO navies can currently use.

Finally, another potential NATO advantage, in Soviet eyes, is the resourcefulness and initiative of NATO junior leaders and pilots—although it remains to be seen whether these qualities are sufficient to offset NATO weaknesses in the areas of operational strategic planning. Soviet military planners are far less than satisfied with the level of technical training of their own soldiers, sailors, and airmen. These shortcomings, the Soviets believe, severely undermine the ability of their forces to fully exploit the military technology they already have deployed.

Despite these shortcomings, the Soviet military appear to believe that a number of factors would help to ensure a Soviet victory should war break out today. These include their numerical superiority in tanks, artillery, infantry fighting vehicles, tactical missiles, and tactical nuclear weapons and the belief that they have a greatly superior "military art" that enables them to effectively design and control operations that make optimum use of the forces they have.

Operations described above would be designed to exploit what the Soviets perceive as the two major weaknesses in NATO's forces. The first weakness is an ineffective, or marginally effective, "system of strategic leadership," that is, the weakness and rigidity of NATO's strategic control system and lack of strategic leadership. Whereas a Soviet theater commander commands all Warsaw Pact assets, the Soviets note that the NATO command structure is fairly rigid at the top because of the many political constraints on the authority of NATO's alliance command structure NATO commanders at the Supreme Allied Commander, Europe (SACEUR); regional (Commander-in-Chief, Allied Forces, Central Europe, or CINCENT); and army group levels do not know when each national force will be relinquished to their commands. Even after the transfer of authority, these commanders cannot assume that all national corps will be responsive in all types of operations or that they will have strategic or operational reserves. The SACEUR's inability to shift a corps from one place to another in the event of a crisis is, in Soviet eyes, one of NATO's chief weaknesses. In the words of one participant, the Soviets see us as "tactically flexible but at a level which can be essentially irrelevant in the scale on which they think about warfare."

The second major NATO weakness noted by the Soviet military is in the area of sustainability and reinforcement. The Soviets understand that NATO cannot begin major reinforcement and resupply from its strategic rear with less than 24 to 30 days of mobilization, and they note the unevenness in sustainability as well as capability among the NATO corps. They are also aware that NATO depends on a few North Sea ports from which NATO's land lines of communication would run perpendicular to any Warsaw Pact penetration. This perceived vulnerability may motivate the Soviets to quickly penetrate the North Sea ports and effectively cut NATO off from its strategic rear before reinforcement and resupply can occur.

Soviet Doctrine

All of these considerations are reflected in recent changes in Soviet military doctrine. Soviet military doctrine is a structured framework of views that unites the Soviet military practice and policy in one concept; military concepts and arms control are both viewed as elements of foreign policy. The current leadership has pronounced what it calls major changes in Soviet doctrine, changes that emphasize a goal of maintaining force levels that are no more than "sufficient" to ensure defense of the Soviet Union.

Participants agreed that these publicly announced changes in Soviet doctrine have been triggered by military as well as economic and political reasons—sparked by new changes in technology, arms control, political realignments, and Soviet domestic economic challenges at home. In military as well as economic and political terms, this may be a critical decision time for Soviet planners.

The Soviets believe that military affairs have entered a transitional stage, with an increased emphasis in forecasts of war on high-technology, nonnuclear systems where NATO would appear to have the advantage if it chooses to exploit its scientific potential. Although nuclear weapons remain of prime importance, the Soviets have increasingly been developing and tailoring their forces for conventional war; until now, they believed their forces to be superior to those of NATO. However, the Warsaw Pact is increasingly questioning its future superiority because of its forecasts of the accelerated pace in producing new technologies, particularly nonnuclear systems with increasing range, accuracy, and destructive potential.

Constrained by their economic planning system and present low level of technological development, the Soviets have a pessimistic view of their

ability to compete with the West in future advanced technologies and of their economy's capacity to produce components. Due to the potential introduction of new military technologies that the Soviets expect over the next 20 years, conventional operations will increasingly take on the character and nature of nuclear operations, in that the range, accuracy, and firepower of these new technologies will allow for the possibility of decisive action at great distance.

Likewise, Soviet planners may find this an especially important decision time because of the nature of their planning cycle and economic challenges at home. In general, the Soviets plan further ahead than the United States, involving longer lead times for Soviet decisions; decisions made now will have an impact far into the future. All of this is compounded by efforts to effect economic and political change in the Soviet Union more broadly: the Soviet political leadership considers the worsening stagnation of the Soviet economy to be one of the greatest, if not the single most urgent, problem facing the Soviet Union. There would be powerful incentives, therefore, for the political leadership to carefully reexamine military policy to seek ways to develop doctrinal support for resource savings in the military sector.

This combination of efforts—to restructure their military and economic systems—has led to real incentives for the Soviets to adopt a less offensively oriented military posture. The Soviets seem to be hoping that these changes in military doctrine will buy them a breathing space ("peredyshka") to restructure their economy at home. They hope it will establish a better foreign policy environment to provide the West with incentives to slow down or halt the modernization of strategic and especially theater forces, to encourage technology transfer from West to East, and to create a more favorable arms control environment to increase stability while diminishing the defense burden at home.

The problem with the new military doctrine, however, is determining what may or may not be new. Soviet military doctrine has two components: political and military-technical. On the political level Soviet doctrine has always been defensive, while the actual military-technical dimension has been offensive. For most of the 1970s, the Soviet military succeeded in dominating the military-technical dimension with little interference from the Communist Party of the Soviet Union (CPSU). But beginning with the late 1970s and 1980s and especially since Gorbachev's ascent to power, it appears that the CPSU has intended to reassume a preeminent role in formulating and developing doctrine. Thus, the current political leadership appears to be calling for a change

to make the actual strategy for waging a war genuinely defensive as well and is discussing making the appropriate changes in troop structure and doctrine to do so. This has triggered internal debate in the Soviet Union and resistance on the part of the military.

Catchwords such as "defensive doctrine" and "reasonable sufficiency" have been used to express these changes and permeate all discussions of Soviet military doctrine today. But despite this shift at the political level, it is unclear what these terms mean, how much they may represent a break from the past, and how—or even whether—they will ultimately be reflected in the structure and capabilities of Soviet and Warsaw Pact military forces. Workshop participants agreed that these catchwords currently represent a political-doctrinal statement rather than elaborated policy; as yet, they have little substantive content in military-technical terms and mark little break from the past.

For example, the Soviets have said that in the future, the principle of "reasonable sufficiency" will form the basis of Soviet force developments. But since at least the mid-1970s, the Soviet political and military leadership has proclaimed repeatedly that Soviet force developments are based solely on what is sufficient for defense. In 1982, for example, Marshall Ogarkov expressed considerable satisfaction that the Soviets had developed sufficient potential for defense compared to the West.

There is a good deal of debate, moreover, about how sufficiency is to be measured. The Soviet military has said that "sufficiency" must be measured relative to the force developments of the probable opponents. But as illustrated in the way the Soviets calculate correlations of forces, as one participant put it, "when has the Soviet military or even the political leadership not sought to justify their force development programs through reference to the military developments of probable opponents?" Definitions of "sufficiency" seem to vary from the ability to defend to the ability to launch a decisive offensive.

This leads to the heart of the problem: assessing what the implications of "defensive" doctrine might be for the Warsaw Pact force posture, given traditional Soviet definitions of what constitutes defense. As one participant put it, "Marxist Leninists fight defensive wars offensively." The Soviet military argues that it must still meet the traditional doctrinal requirements to forecast the nature of future war and to ensure that

the forces and Soviet state would be prepared to fight such a war successfully.[10] To do so, they assert, they must be able not only to defend but also to attack decisively, as it is only through the offensive that military objectives will be achieved once war has begun.

One Soviet writer uses Lenin's words to make clear the distinction between the concept of defense at the general ideological level of warfare and at the more practical operational level where wars are actually fought. According to this writer, Lenin established the principle that "the socialist state conducts and will conduct only defensive wars...these wars are defensive as far as their political aims are concerned, but not in the method of their conduct...."[11] Today as well, defensive operations in the Warsaw Pact involve a counter offensive, with the aim "to utterly destroy the enemy."

Finally, the inclusion of the notion of "prevention of war" in official Soviet doctrine has been heralded as something new. But here as well, the concept dates back many years. One participant referred to a quote from Thomas Wolfe, who described the doctrinal ferment the Soviet military was facing in 1963. Wolfe commented that the Soviet military had seized on the argument that "if the military man's raison d'etre can no longer be found waging and winning wars, it can rest on the function of preventing them."[12]

In short, as one participant put it, "the Soviets seem to be saying yes, it may be too early for any sort of visible manifestations of this new defensive doctrine but, in effect, trust us." Soviet seriousness in this regard will be determined by the extent to which the Soviets define and provide force guidelines for reasonable sufficiency. In the words of another participant, "We need to look carefully and wait and see what this means. Because it might not mean anything very different in terms of philosophy from what we've already seen...." As others pointed out,

[10]S.F. Akhromeyev, "Watching Over Peace and Security," Trud, February 21, 1988.

[11]G.C. Lukava, Lenin's Military Theoretical Heritage and Problems of Modern Warfare, Moscow, 1987. Also, Soviet Defense Minister D. T. Yazov, "Na strazhe sotsializma i mira" ("On Guard for Socialism and Peace"), Moscow, 1987. The manuscript makes clear the limitations of defensive operations in meeting Soviet doctrinal security requirements. According to Yazov, while defense is the "main type of military action for repelling aggression, ... it is impossible to achieve crushing defeat of an aggressor with defense alone. After an attack has been repelled, the troops and naval forces must be able to carry out a 'decisive offensive.' The transition to the offensive will take the form of a counteroffensive which will have to be conducted under complex and stressful conditions with a well-armed enemy."

[12]Thomas Wolfe, Soviet Strategy at the Crossroads (Cambridge, MA: Harvard University Press, 1965), p. 76.

the Soviets could also revert to a traditional approach after "perestroika," or "restructuring," has taken effect or if it fails to take effect.

In sum, Soviet planners believe they have a marginal advantage in the conventional balance in Europe today, although they are far less optimistic about the future. They believe that their superiority in numbers and possession of a sound doctrine probably outweigh NATO's superiority in individual equipment items and the training of individual soldiers. But they also believe that they would need to control events in the threatening period leading up to the outbreak of war, so as to disrupt NATO mobilization and seize and retain the initiative. And they see their advantage eroding with the development of new technologies and systems in the West with which the Soviet Union cannot compete, and which makes their successes less certain than before.

The Soviets do not want a war to occur in Europe. Should, however, war begin, they would want to keep it conventional. They would also want to achieve surprise, maintain a rapid rate of advance, and ultimately to attain a rapid victory. They prepare, however, to fight a long war, and prepare to fight with both nuclear and conventional weapons.

The Soviets believe that perhaps the most effective type of operation in a future war against NATO would be a large-scale operational-strategic encirclement of large groupings of NATO forces. The Soviets would plan to concentrate their forces to penetrate NATO's defense in a few relatively narrow NATO sectors, followed by encirclement of large groupings of NATO forces and rapid seizure of key objectives in Western Europe. While they appreciate their roughly 2 to 1 force advantage to NATO in Europe, they believe they could successfully conduct such an operation with a much lower force ratio. Thus, while the Soviets do not want to see a war break out in Europe, they believe, today, that Soviet forces would not lose, especially if nuclear use can be avoided.

Suggestions for NATO

Because this workshop focused on the Soviet view of the balance, workshop participants did not attempt to prescribe specific courses of action for NATO, either for arms control with the Soviet Union or for force planning at home. Instead, they suggested a number of guidelines and cautionary notes that follow from Soviet assessments of the balance and that often do not emerge when the balance is viewed from a U.S. or NATO perspective.

At the beginning of the workshop, participants were asked two broad questions. First, do the Soviets believe that they have overwhelming superiority in conventional forces and can quickly prevail in a conventional war? Second, what could the United States and NATO do to enhance deterrence?

The response to the first question was twofold. First, most participants agreed that the Soviets probably believe that they would win—although barely—but that they see their advantage as eroding significantly; the answer to the same question posed in the mid- or long-term, they believe, would be uncertain.

Second, however—and more important—the participants suggested that posing such a question is dangerous, both because of what it presupposes and also because of its impact. The question presupposes that the Soviets are waiting for a proper correlation of forces in order to start a war. In the words of one participant, "We cannot think that the only reason the Soviets are sitting behind the IGB [inter-German border] is because the correlation hasn't quite peaked to the point where they can do it. Having a war makes no sense for them right now." Since there is a tendency among many people, if the threat is not terrible, to "soften" or become distracted, participants said that instead of focusing on that question, we should focus on the problem and try to manage the correlation of forces both through negotiations as well as force development. The discussion then turned to the implications for NATO, both in terms of arms control/deterrence and in terms of military planning at home.

Implications for Arms Control and NATO Force Development

Today, the United States and NATO have a unique opportunity to put forward arms control proposals to a receptive Soviet political leadership. Due to Soviet domestic and foreign policy requirements—economic stagnation and restructuring and political uncertainties at home, a desire to import technology from the West, and a desire to improve the security situation by reducing the threat of nuclear weapons and reducing Soviet defense expenditures—many believe that Gorbachev may make certain military concessions to the West in order to build up confidence in the West and to achieve long-term political and economic objectives at home. In the words of one participant, "that is the most important bargaining chip we have."

But participants also underscored that arms control proposals are not driven solely by politics or by "peace-loving Politburo types who are

conflicting with the military." Today, they are the product of cold, serious military assessment, and the Soviets always try to use arms control—as indeed they should—to achieve some advantage (even though the advantage is not always immediately obvious). Part of the Soviets' present rationale is to use arms control to undermine NATO's ability to exploit the advantage NATO may have in technology in the future, as well as to work towards the Warsaw Pact's best military advantage. What proposals the Soviets will accept is still very open; this provides a good opportunity for NATO to take the initiative in presenting its own proposals.

Doctrine

One of the U.S. and NATO's biggest constraints in taking the initiative to make proposals is the lack of a doctrine, or an operational concept, to develop comprehensive proposals—perhaps due to the difference in security interests among NATO members. The Soviet armed forces currently believe that they have a useful analytical system they can use to (1) calculate the relative importance of each weapon system in both the NATO and Warsaw Pact forces and (2) plan to compensate rapidly for any loss to their force by reorganizing training, restructuring formulations, and procuring new weaponry. On a strategic-operational level, the Soviets attempt to identify and calculate, with reasonable confidence, such things as what deletion from NATO forces would hurt NATO most and what deletion from the Warsaw Pact forces would be of least damage to them; they put a value on any Western arms reduction proposal and, on an operational level, calculate how best to compensate for any given agreement.

NATO has no such system to make these calculations and may therefore be at a serious disadvantage in any negotiations in conventional arms reductions and in military planning. One participant stressed that even if NATO were to achieve overall military superiority in forces after improvements in its conventional and nuclear defenses, it might still remain at great risk of defeat in the event of a war because it lacks a cohesive operational strategy for how to best use those forces in defense. In the words of another participant, NATO has no way of evaluating the procurement of different weapons systems and no way of calculating their value to the system, because it does not have an operational concept to fit them into.[13]

[13]According to one participant, there is no way of "assessing the value of the Multiple Launch Rocket System or not buying Army Tactical Missile Systems...because we haven't got an operational concept. We can only do tactical attrition models, and that doesn't give you any sense of the value....We have not gone from the tactical level into studying the operational impact of weapons systems."

In the past 6 years, the United States has started to work on developing an operational concept, but it marks just a beginning. Efforts should be accelerated for NATO to negotiate with the Warsaw Pact. In the words of one participant: "One of the things we are finding a problem at the moment in Europe and in NATO is that a lot of people are coming to us and saying we are in the business now of arms control reductions and we are thinking about conventional proposals. Give us a relative value of the F-16 squadron to the T-64 division. And everyone is looking into an empty cup because the work has not been done."

Role of the RED Assessment

To assist in developing a U.S. or NATO operational concept, workshop participants underscored the importance of understanding "Red" assessments—that is, how Soviet planners make their assessments, with what evidence and judgments, and what the product of their assessments is—to evaluate Soviet arms control proposals and to contribute to negotiating positions NATO or the United States might propose. Incorporating "Red" as well as net assessments into the negotiating process would allow the West to evaluate Soviet proposals from the Soviets' own viewpoint, to understand their long-, medium-, and short-term objectives and military minimums for national security and national defense. This would also help in determining the mixture of forces that is needed for NATO. Efforts have been underway to capture how the Soviets make their assessments; participants agreed that at present, there appear to be few mechanisms for integrating a "Red" assessment into the negotiating process.[11]

Unilateral Force Reductions

Given the political as well as military context in which the Soviet leadership is approaching arms control, we should not expect unilateral reductions on the part of the Soviets—with two possible exceptions. First, the Soviets may reduce forces unilaterally but then pass this off as a significant gesture of unilateral reduction towards the West. Second, the Soviets could decide to make a relatively small, militarily insignificant unilateral withdrawal as a gesture to try to pressure NATO into an equivalent response. But NATO should not expect any significant unilateral reductions on the part of the Soviets that would not be in their own military and political interests. Indeed, participants noted that, lately, Gorbachev has stopped talking about unilateral reductions and instead has begun talking in terms of "reciprocal reductions."

[11]John G. Hines and George F. Kraus, "Soviet Strategies for Military Competition," Parameters, Autumn 1986, pp. 26-31.

Negotiations

In negotiations with the Soviet Union, the United States and NATO should concentrate on countering those principles of Soviet doctrine that would derail the kind of strategies and operational planning that the Soviets undertake. These might include some of the following elements and cautionary notes.

(1) Force reductions. A good deal of caution must be exhibited in any agreement for force reductions. When Western observers hear 1.25 to 1 as the possible outcome of force reduction negotiations, many believe that this would effectively eliminate the threat of a Soviet invasion of Western Europe, or at least reduce it to a point where the balance is bearable. Yet Soviet strategy and operations, such as illustrated by the encirclement operation, suggest that Warsaw Pact forces could still achieve victory with a very small force advantage. Soviet writings suggest that the Soviets could have a force advantage of as little as 1.25 to 1 across the theater, as they did in Manchuria, and have a 3 to 1 advantage or better in two or three sectors and up to 5-8 to 1 in the tactical point of penetration. With this, they could penetrate and achieve victory. One suggestion for force reduction negotiations was to strive for parity without losing sight of other aspects of the balance.

Likewise, any overall symmetrical reduction in forces would not be to NATO's advantage, given that lowering the density of forces, by Soviet calculations, would aid the attacker and make rapid advance and maneuvers easier. Thus, if the Soviet Union could negotiate a reduction of forces on both sides of the East/West German border by, for instance, 25 percent, and prevent the construction of any compensatory defensive fortifications, NATO would find it difficult to create an effective density of defense. However, the Soviet ability to concentrate force on the main axes would not be affected. NATO should try to create a density of force that would slow a Soviet advance and preserve the cohesion of NATO defense.

Given the structure of Soviet personnel—especially the difference in the concept of reserves—any reduction in forces will mean something very different for the Warsaw Pact from what it will mean for NATO. When the Soviets negotiate for force reductions, they will in effect not be disbanding any forces. Unless these reductions are accompanied by the elimination of respective armaments, the Warsaw Pact will be reducing their forces from category I to category III, which means they can elevate them to category I again in 3 weeks. Thus, the Soviets could, at

present, agree to a force reduction as part of an arms reduction agreement, knowing that they could reduce a division dramatically and regenerate it in a few weeks. The Soviet Union and NATO have different concepts of "reserve" forces. The participants discussed whether NATO might profitably mirror the Soviet pattern, that is, increase its stores of first and second generation weapons and field, after 3 weeks, a reserve force that could prove very crucial in the defense of Europe. This would require a good deal of work and a major conceptual change for the U.S. and NATO military forces.

(2) Nuclear versus conventional. Participants agreed that it is critical to retain an effective nuclear threat in an escalatory link. Nuclear weapons are the only NATO weapons that can threaten the territory of the Soviet Union. Therefore, from the Soviet point of view, eliminating nuclear weapons, or reducing the nuclear risk, is of particular importance as an element of policy. Indeed, General Yazov has already offered to restructure Soviet forces on the basis of reciprocity along nonnuclear lines.

It would not necessarily follow for NATO, however, that denuclearizing Europe can be balanced by conventional forces. From the Soviet point of view, NATO cannot threaten the Soviet Union if NATO has no operational or tactical nuclear weapons, barring a strategic exchange.

(3) Speed and surprise. There is a perception in the West that if NATO has sufficient capability to deter the Soviets from achieving their objectives quickly, it will deter the Soviets from going to war. According to the participants, this is a dangerous perception because the Soviets have been preparing for a long war and may have the capabilities and assets to fight one. Being able to prevent them or delay them from achieving their objectives quickly would not necessarily deter them. NATO might build defenses, such as tactical mines, to force the Warsaw Pact forces to slow down, or it might try to negotiate the removal of Soviet fuel stocks or the dismantling of tanks that are negotiated away. But these should not be viewed as sufficient in themselves to deter the Soviets.

(4) Tanks for air. Because of NATO's superiority in the air and the Soviet assessment of NATO's reliance on air power to provide operational impact across corps boundaries, the Soviets see air as the most important thing to eliminate on the U.S. and NATO's part. The Soviets have already suggested trading airplanes for tanks in the arms reduction process. Because air power is easy to restore, NATO could expect the Soviets to make further proposals to undermine NATO's ability to sustain air superiority, such as addressing the technological base of various air bases or

breaking up NATO runways to achieve a more lasting effect on the combat potential of U.S. and NATO aircraft.

It is important to remember that aircraft is NATO's only real advantage at this time. In the words of one participant, it is "the only area where we have an ace in the hole." Aircraft are NATO commanders' only real means of affecting the battle on an operational scale, especially in an unreinforced or short-warning scenario in which operational ground force reserves are minimal. Recalling the importance of air superiority to the Warsaw Pact encirclement operation, one participant suggested that NATO measures to better protect NATO air resources—such as investing in air defense and basing facilities—could totally frustrate even the most elaborate Soviet operational plans, thereby greatly enhancing NATO's deterrence of a Warsaw Pact attack. Workshop participants believed that to dismantle aircraft would be irresponsible; they called for exceedingly careful negotiation on this issue.

(5) Missiles. Workshop participants were generally surprised by the Soviet proposal to eliminate this whole category of weapons despite a tremendous advantage. Part of the reason may be the question of dual capability: "Despite the fact that the Soviets have built missiles with the capacity to launch conventional and nuclear warheads of various kinds, they are very concerned about that kind of capacity being well integrated in NATO in the future...." However, another reason may be that missiles are the strike component of what the Soviets call reconnaissance strike complexes, or deep-strike precision-guided weapons effectively brought to deep targets in real time.[15] The Soviets' long-term forecast on their relative ability to automate control of weapons is very bleak; NATO's ability would be far superior. If the Soviets were dependent on a much longer control process, NATO could effectively strike them with impunity with conventional weapons. By eliminating this whole class of weapons, they perceive that their future would look better in both nuclear and conventional terms.

(6) Command and control. The Soviets view the lack of operational control as one of NATO's most significant weaknesses. According to one participant, "in the Soviet estimation, a commander without reserves is not a commander. He's a switchboard. He has no function....They look at us with our forces with a commander holding the leash on three or four

[15]Real time is the absence of delay, except for the time required for the transmission by electromagnetic energy, between the occurrence of an event, or the transmission of data, and the knowledge of the event, or reception of the data at some other location.

corps at army group level, who will cross leashes....If we don't address that, even if we encourage or enhance the technology of our forces tremendously, we are still in a crisis effectively going to invite attack."

Unless complete mobilization has taken place, NATO operational commanders have no significant means to affect the battle other than air power. Even if NATO is fully mobilized, the technical means of command and control do not yet exist to enable the Commander, Northern Army Group, and CINCENT to exercise operational command.

One of NATO's first priorities must be to try to counter the operational concepts described above to deny Soviet operational-strategic planners the opportunities they now see. One participant suggested the need for a more cohesive operational command and control and, perhaps, a redistribution of national forces. Soviet writings suggest that the Soviets may already have the notion that many of the newer NATO concepts are formulated on a fairly stylized Soviet pattern of behavior and that Soviet planners may intend to present us with unanticipated methods of operation. Command and control improvements for NATO may be among the least offensive means of achieving deterrence and defense, reducing Soviet confidence in achieving success.

(7) Tank/antitank balance. NATO must recreate the tank/antitank balance. Participants agreed that there is a wide gap in NATO today between what is technically available and what is actually fielded. One of the participants illustrated this by comparing the development of explosive reactive armor (ERA) with the development of NATO antitank missiles to defeat conventional armor. "So slow was the NATO procurement system," he said, "that NATO deployed sufficient antitank missiles only after a means to defeat their shaped charge warheads had been developed. We are now into the second generation of Soviet ERA before NATO has fielded a means to defeat the first generation. The fact that a technical solution is on the laboratory bench will be of little comfort to a soldier of the Vth U.S. Corps if war breaks out tomorrow."

Today, NATO is dependent on tanks for carrying almost the entire antitank burden, while the Soviets can meet this burden with both their tanks and antitank guided missiles. Tanks are fast becoming the only effective antitank weapon NATO has against Soviet reactive armor; antitank guided missiles with shaped charges do not work. We must bear this in mind in any tank reduction scheme.

(8) Naval forces. While war in Europe would clearly be a ground war, the Soviets seem to understand that for certain sectors, naval and amphibious forces would be important. NATO must therefore seriously consider situations where naval air, cruise missiles, offshore naval bombardment, and amphibious landing operations may be brought to bear in support of NATO defenses.

Military Planning

Participants believed that one or two things could profitably be learned from the way the Soviets conduct their military planning. They focused on military organization for planning that mitigates conflict among arms of service and planning based on operational concepts. While the Soviets believe that NATO may have a major advantage at the tactical level, they believe NATO is "out-thought" at the operational level. Participants agreed that with the technical and other assets that NATO already has, incorporating an operational concept for force development and strategy and incorporating the Soviets' own assessments into that process could result in a truly formidable NATO defense.

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